



COUNTY BOROUGH OF SALFORD.

SPECIAL REPORT

ON THE

PREVALENCE OF SMALLPOX,

DURING THE

YEARS 1892-93,

BY

CHARLES E. PAGET,

M.R.C.S. ENG., L.R.C.P. LOND., D.P.H.,

MEDICAL OFFICER OF HEALTH.

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SALFORD

W. F. JACKSON AND SONS, PRINTERS, STATIONERS, &C., 29, NEW BAILEY STREET

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PUBLIC HEALTH DEPARTMENT,

TOWN HALL, SALFORD,

November 30th, 1893.

TO THE GENERAL HEALTH COMMITTEE.

Gentlemen,

I have the honour to submit to you a special report on the prevalence of Small-pox in the Borough during the years 1892-3.

The recent epidemic of Small-pox in Salford has been an important one in several respects. In the first place, it represented a part only of the distribution of the disease among a large number of the cities and populous boroughs of the kingdom; in the second, it has afforded an illustration of the manner in which large outbreaks of Small-pox may be met in towns so large as Salford, and in which the artisan classes predominate; and, in the third place, the epidemic is memorable in that it has led to a further development—perhaps a final one—in the question of hospital accommodation for infectious diseases occurring in the Borough.

Treated from these points of view, I cannot but think that the circumstances of the epidemic will be found interesting.

But the report contains facts of more than local interest. These concern especially the incidence of Small-pox on vaccinated and unvaccinated persons, and the different degrees of severity manifested by the disease in persons so differently circumstanced. It is, however, to be hoped that by local lessons, such as may be found in this report, local prejudices against the practice of vaccination and re-vaccination may be weakened and finally removed. I have, therefore, been careful not to press the claims for vaccination unduly, but to leave the simple facts of the case to speak for themselves.

I take this opportunity of expressing my acknowledgments to Dr. Mullen, Medical Superintendent of the Ladywell Sanatorium, for the kind

assistance which he has given me in completing the information as to types of diseases, and quality of vaccination, among cases dealt with in the hospitals, and to Mr. H. F. Jenkins, of the Health Department, in the search through the parish registers for 18th century records.

I have the honour to be, Gentlemen,

Your obedient servant,

CHARLES E. PAGET,

Medical Officer of Health.

TABLE OF CONTENTS

| | PAGE |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| I. Small-pox in Salford in the Pre-vaccination Period. | |
| 1. 18th Century Records | 7 |
| 2. Salford Records..... | 7 to 12 |
| II. Small-pox Epidemic in Salford, 1892-93. | |
| 1. Preliminary Remarks | 13 |
| 2. History of the Epidemic | 15 |
| 3. Table I. Weekly Incidence of Small-pox Cases | 30 |
| 4. Map I. Showing total houses in the Borough where cases of Small-pox occurred..... | 15 |
| 5. Detailed Statement of all Cases during the Epidemic ... | 16 to 29 |
| 6. Incidence of Cases in respect of houses, &c. | 31 |
| 7. Illustrations of the Neglect of Precautions in particular Households..... | 31 & 32 |
| 8. Small-pox and Vagrants | 33 |
| 9. Action in respect of the Common Lodging-houses | 35 |
| 10. Analysis of the influence of Vaccination. (Tables II., III., IV.)... .. | 37 to 39 |
| III. The Hospital Question. | |
| 1. Primary arrangements for the Isolation of Cases of Small- pox occurring in Salford. Monsall Hospital | 42 |
| 2. Secondary arrangements for the Isolation of Cases of Small- pox occurring in Salford. Wilton Hospital, Mode Wheel Hospital | 42 & 43 |
| 3. Plan of the Mode Wheel Hospital | 42 |
| 4. Administration at Mode Wheel Hospital..... | 43 |
| 5. Enquiry concerning Wilton Hospital. Map 2 | 44 |
| 6. Concluding Remarks on Mode Wheel Hospital | 45 |

I.

Small-pox in Salford in the Pre-vaccination Period.

There are unfortunately no records that I can find of prevalence of small-pox in Salford during the last century, such as I had the fortune to show had obtained in the city of Chester in 1774,* or Dr. McVail has shown for Kilmarnock and other places,† or Dr. J. Guest Gornall has unearthed in his report on the epidemic of small-pox in the years 1892-93 in the Borough of Warrington,‡ or as has been disclosed for Pudsey in Yorkshire, in a little pamphlet recently issued by the Medical Officer of Health for that place.§ But, nevertheless, I have made some enquiry into the matter, and have found a few facts corroborative of previously discovered facts regarding small-pox in the pre-vaccination period.

18th Century
Records.

In his work "Vaccination Vindicated,"||" Dr. McVail quoting from "Essays by Thomas Percival, M.D. (London, Joseph Johnson, 1776), says, "in Manchester, according to Percival, in the six years 1769-74, there were 589 deaths from small-pox. The deaths in Salford do not appear to be included here, and in 1773 the population of Manchester was 22,481, so that the small-pox mortality per million would be 4,359; but if Salford be included the population was 27,246, and the rate per million 3,597."

Now, I have been able to obtain no figures which would enable me to specifically alter those which I have quoted; but it is hard to believe that if small-pox, at any time, prevailed in Manchester it did not also prevail in the adjoining Borough of Salford. By the kind permission of the Rev. H. F. Gore-Booth, the records of the burials at the Parish Church (Sacred Trinity) of Salford have been searched from the year 1709 to the year 1840. Although in these the names of the persons buried are always given, and, as a rule, the dates of the burials, the addresses and the diseases from which the persons died are not always stated.

Salford Records.

* Trans. Epidem. Soc., N.S., Vol. III., 1883-84.

† "Small-pox in Kilmarnock in the last century," contained in the report of the Medical Officer of the Local Government Board for 1884. "Vaccination Vindicated" by John C. McVail, M.D., D.P.H., 1887.

‡ "The Bill of Mortality of the town of Warrington for the year 1773," by the Rev. J. Aiken, and communicated to the Royal Society by Dr. Percival.

§ "Small-pox Mortality in Pudsey a century ago," by W. Lovell Hunter, M.D.

|| Op. cit., p. 154.

Salford Records. There are, however, exceptional years when full particulars are given, as, for instance, in the year 1803. There is no *record* from the year 1709, of death from small-pox until the year 1793. In the latter year, however, the following entries occur :—

“ Robert, son of John and Esther Leech, 12 months, small-pox.”

“ Nov. 8.—Henry Crabtree, small-pox.”

In the year 1794, no addresses or diseases are given, but the ages in some cases. In 1795, names only are given, and the disease in one instance, “ Dropsy.” From 1796-99 names only and a few ages are given, but no diseases. In 1800, names and ages are given, and in two cases diseases are mentioned, one of which is

“ Dec. 4.—John, son of William and Phoebe Perkin, Small-pox.”

In 1801 to June, names and ages only are given, from July to December, names, parents, ages, and the diseases are given in most cases. The following relate to the subject in hand :—

“ Aug. 27.—John Fisher—Sam and Ann—5 years—small-pox.”

“ Sep. 24.—John Hatton—Thomas and Jane—2 years—small-pox.”

“ Oct. 11.—John Markey—son of William and Mary—22 months—small-pox.”

“ Nov. 15.—Alice Howel—daughter of John—20 months—small-pox.”

“ Nov. 29.—Ann Pickering—daughter and step. of Ann—8 months—small-pox.”

In 1802, the names and ages are given in most cases, but the disease only in one, and that is “ Asthma.” In the year 1803, however, the particulars given are very fairly complete in respect of age and disease, and the following extracts of recorded deaths from small-pox are sufficient to indicate that during the year there was a considerable prevalence of the disease in the Borough. Altogether, for historical purposes, the year 1803 is the most important so far as the registers enable one to judge :—

| 1803. | | | | Y. | M. | D. |
|------------|-----------------------|-----------------|---|----|----|----|
| “ Jan. 5. | John Cooms..... | Small-pox s.... | 5 | — | — | ” |
| “ „ 8. | Barb Hutchinson | do. s.... | — | — | 6 | ” |
| “ „ 18. | Jane Evers | do. s.... | 1 | 8 | — | ” |
| “ „ 23. | John Garside | do. s.... | — | 6 | — | ” |
| “ „ 26. | Joseph Clowes... .. | do. s. . | — | 6 | — | ” |
| “ Mar. 22. | Henry Clarke | do. s.... | 1 | — | — | ” |
| “ Apr. 10. | Joseph Gorby | do. s.... | 1 | — | — | ” |
| “ May 8. | Thos. Rowen | do. s.... | 2 | — | — | ” |

| 1803. | | | | Y. | M. | D. | Salford Records. |
|-------|------|-----|------------------------|-----|----------------------|-----------------|------------------|
| " | " | 22. | Betty Shaw..... | do. | s.... | 2 | - -" |
| " | June | 14. | John Albister | do. | s (age obliterated)" | | |
| " | " | 24. | T. Albister | do. | s.... | 2 | - -" |
| " | Aug. | 10. | My. Blomely | do. | ... | 2 $\frac{1}{4}$ | - -" |
| " | Sep. | 4. | John Bate..... | do. | ... | 1 | - -" |
| " | " | 16. | John Plant | do. | ... | - | - 7" |
| " | Oct. | 9. | Eliz. Mitcalf..... | do. | ... | 13 | - -" |
| " | " | 30. | Martha Hewet..... | do. | ... | 1 $\frac{1}{2}$ | - -" |
| " | Nov. | 6. | Eliz. Jeffet | do. | ... | 9 | - -" |
| " | " | 13. | Eliz. Penkethman | do. | ... | 1 $\frac{1}{2}$ | - -" |
| " | " | 23. | Mary Walker | do. | ... | - | 1 -" |
| " | Dec. | 11. | Ann Lord | do. | ... | 1 $\frac{1}{2}$ | - -" |
| " | " | 11. | John Carr..... | do. | ... | 1 | - -" |
| " | " | 13. | Marg. Chadwick | do. | ... | - | 7 -" |
| " | " | 13. | Adam Almond..... | do. | ... | 1 $\frac{3}{4}$ | - -" |
| " | " | 15. | Ann Simister | do. | ... | 1 $\frac{1}{2}$ | - -" |
| " | " | 15. | Susanh. Walker | do. | ... | 7 | 7 -" |
| " | " | 18. | Sarah Taylor | do. | ... | 5 | - -" |

No addresses are given in these cases.

In the year 1804, the following cases are recorded, but no addresses are given :—

| 1804. | | | | Y. | M. | D. |
|-------|-------|-----|-------------------------|--------------|-----|--------|
| " | Jan. | 1. | Frederick Worrall..... | Small-pox... | 1 | 6 -" |
| " | " | 15. | Mary Banks | do. | ... | 2 6 -" |
| " | " | 29. | Ellen Collinge | do. | ... | 1 3 -" |
| " | Feb. | 5. | Sarah Butterworth | do. | ... | - 6 -" |
| " | May | 20. | Margaret Woodcock ... | do. | ... | - 5 -" |
| " | Sept. | 23. | Nancy Owen | do. | ... | 2 - -" |
| " | Oct. | 23. | James Nelson | do. | ... | 2 6 -" |
| " | Nov. | 22. | Martha Gratrix ... | do. | ... | 1 6 -" |
| " | " | 25. | Eliz. Hoyle | do. | ... | 1 - -" |

In the year 1805, no addresses are given, and the diseases only in a few cases, of which the following is one :—

| 1805. | | | | Y. | M. | D. |
|-------|------|-----|--------------------|--------------|----|------|
| " | Jan. | 27. | Lucy Jackson | Small-pox... | 1 | - -" |

In the year 1806, the cause of death is only given in a few cases, and no mention is made of small-pox.

Salford Records.

In the years 1807, 1808, 1809, and 1810, no cause of death is given.

In the year 1811, only in a few instances is the cause of death stated, and no mention made of small-pox.

In the year 1812, no cause of death is given.

In 1813, name, abode, when buried, and age are given, but no disease.

In 1814, the register is as 1813, but in one case the disease is given; the following is the extract:—

1814.

| | | | | |
|-------------------------------------------------------|----------------------------|---------------------|----------------------------------------|--------------------------------------------------|
| "George, son of Michael and Eliza- beth Lee. | Hart Street Manchester. | 16th Jan., 1814. | Three months. Died of Small-pox. | Rev. Thos. Clowes, Curate of Didsbury." |
|-------------------------------------------------------|----------------------------|---------------------|----------------------------------------|--------------------------------------------------|

From 1815 to 1817, no diseases are given.

In the year 1818, the following are given:—

1818.

| | | | | | |
|--------------------------------------------------------------|-----------------------------------------------------|------------------------|-----------------------------|-------------------|-----------------|
| "Harriet, daughter of James and Harriet Hodgkinson. | Brown Street, Salford. | 24th July. | 2 years 8 months. | Samuel Booth. | Small- pox." |
| "Mary Ann, daughter of Richard and Martha Symms. | Heap's Court, Hope Street, Salford. | 31st July. | 14 years 3 months. | Robert Dallas. | Small- pox." |
| "Isabella, daughter of William and Isabella Brown. | No. 8, Booth Street, Oxford Road, Manchester. | 16th Aug. | 16 months. | Samuel Booth. | Small- pox." |
| "Samuel, son of George and Hannah Lax. | Allum Street, Manchester. | 29th Nov., 1818. | 8 months. | Samuel Booth. | Small- pox." |
| "Sarah, daughter of Stephen and Eliz. Burnham. | Ship Yard, Chapel Street, Salford. | 11th Dec., 1818. | 6 years 6 months. | Saml. Booth. | Small- pox." |

In 1819, one case of small-pox is given as follows:—

1819.

| | | | | | |
|----------------------------------------------------|------------------------------|-------------|------------|-----------|-----------------|
| "Geo. Mills, son of Jas. and Susannah Moore. | Mount Street, Salford. | Nov. 23. | 14 mos. | S. Booth. | Small- pox." |
|----------------------------------------------------|------------------------------|-------------|------------|-----------|-----------------|

In 1820, one case of small-pox is given, namely:—

| | | | | | |
|------------------|---------------------------|------------------|---|-----------------|-----------------|
| "Anne Newman. | Booth Street, Salford. | Mar 13, 1820. | 8 | Saml. Booth. | Small- pox." |
|------------------|---------------------------|------------------|---|-----------------|-----------------|

From 1821 to 1840, no diseases are given.

Salford Records.

These returns are of course very incomplete and insufficient for purposes of comparison; but they suffice to show how necessary was the passing of the Registration Act of 1837, so that a regular record of the causes of deaths throughout the country might be at all times available for purposes of investigation. Of the old records, to which I referred in the early part of this report, that of Chester was probably prepared by a famous physician then residing in the city—Dr. Haygarth,—that of Kilmarnock by Mr. Robert Montgomerie, school-master in Kilmarnock, and session clerk, who kept a register from the year 1728, that of Warrington by a celebrated townsman, and that of Pudsey through the happy circumstance that; as Dr. Hunter says in reference to a register relating to the years 1775 to 1814, “The curate in charge of the chapel of Pudsey, Yorkshire, the Rev. William Howarth during the years above-mentioned, kept a register of the burials in the parochial churchyard. This record gives the names, ages, and sex of most of the people buried, and, in addition, in the majority of the cases the curate has added the supposed cause of death. It is this voluntary addition to the register that makes the copy valuable as a record of small-pox.”

I beg to call attention to the word “voluntary” in this last sentence. It is indeed true that it is to *voluntary* effort and trouble that in these days we are indebted for much of the most important knowledge we possess of the behaviour of small-pox in pre-vaccination times. It is to be regretted that more cannot be contributed to that knowledge from this borough; but, nevertheless, there is something to be seen in the extracts which I have given.

In Pudsey, from 1777–1813, there were 239 deaths from small pox; the age in 16 was not given, and in four only was the age stated to be over 10 years. In Kilmarnock, from 1728–1764, there were 622 deaths from small-pox; the age in nine was not stated, and in seven it was stated to be over 10 years. In Chester, during the year 1774, there were 202 deaths from small-pox, and all were children under 10 years of age. In Warrington, in the year 1773, there were 211 deaths from small-pox, and all were children under 10 years of age. In Salford, the recorded deaths from small-pox between the years 1793–1820 were 52 in number; in two of these no age is given, and in one the age is obliterated, in two the age is above 10 years, and the rest are all below that age. In Salford then we are able from our scant records to give additional evidence of the fact that small-pox was a specially fatal disease among young children, in striking contrast to the condition of things in the present day. Now a *well* vaccinated child is unlikely to take small-pox under ten years of age, while a person above that age, who has not been well re-vaccinated, is certainly liable to contract the disease.

rd Records.

This fact, supported by local records, seems to me a sufficient reason for extending the lines of this report into past years, which not many now living in the borough can readily call to mind. The statistics contained in this report will, moreover, show clearly the influence of primary vaccination in preventing a large amount of infantile small-pox, and the unwisdom of adolescents and adults relying on their vaccination in infancy to protect them from an attack of small-pox in their later years. It cannot be too strongly impressed upon the public that while the resistance to an attack of small-pox in adult life, afforded by an attack of small-pox in infancy, was, in pre-vaccination days, almost complete and life-long, that resistance was subsequently obtained by vaccination. No doubt, when vaccination came into common practice, many adults were primarily vaccinated, and obtained almost life-long protection. But when vaccination became compulsory in infancy, the protection was made in the earliest years of life, and as the protection became less and less durable with advancing years it should have been repeated. It is largely to the neglect of this renewal of protection by re-vaccination that we owe such serious outbreaks of small-pox as have characterised this and other boroughs in recent years.

11.

Small-pox Epidemic in Salford, 1892-93.

The first cases of small-pox which occurred in Salford during the year 1892 were isolated ones. There was one case in the 11th and 12th weeks respectively, but they were cases connected with each other.

Preliminary
Remarks

The first one was a girl aged five years, who had been staying in a house in Manchester where a case of small-pox had occurred. On the outbreak of illness in that house, she was sent to her home in the Greengate district in Salford on the 9th of March. As she had not been vaccinated, the vaccination officer was communicated with, and the father of the child was urged to have vaccination performed. As a result, the child was vaccinated on March 10th; but apparently the operation was not performed in time, for the child sickened on the 12th from small-pox, and she was removed to Monsall Hospital.

The second case was that of the medical gentleman who had been attending on the case in Manchester, and on the young girl just mentioned in Salford.

So far then there was no sign of a serious outbreak of small-pox in the borough, though a strict watchfulness was exercised in the districts where the two first cases occurred.

There were, however, signs that continuous watchfulness was necessary throughout the borough owing to the fact that, at the time, there was unusual prevalence of small-pox in other cities and boroughs of England, notably, so far as Salford was concerned, in Liverpool, Dewsbury, and Oldham. Nevertheless, there was no real cause for grave anxiety before the month of September, and from that month to December inclusive there were but five cases in Salford. But, as during the same period 104 cases had been recorded as having occurred in the adjoining city of Manchester, it appeared certain that Salford could not entirely escape from the consequences of her surroundings, and the neglect of re-vaccination by her inhabitants.

In the month of September, I waited upon the Board of Guardians, and represented to them the urgent desirability of

Preliminary
Remarks.

calling the attention of the inhabitants of the borough to the need of their protecting their children by vaccination, and themselves by re-vaccination, and this was done on the 23rd of the month, by means of handbills placed in the hands of the vaccination officers for distribution.

Very little attention having been apparently paid to the advice set out, I had, under the direction of the Health Committee a fresh handbill prepared, and this was distributed from house to house throughout the whole borough. This handbill was dated December 27th, 1892, and contained a few statistics of the relative mortality from small-pox among the vaccinated and the unvaccinated respectively, which were not given in the first handbill. The distribution of this second handbill occupied a little more than a fortnight.

On January 20th, 1893, I communicated with the Public Vaccinators asking them if there had been, as a consequence of the handbill distribution, any increase in the applications to them for vaccination or re-vaccination. They all four replied that the handbills had not increased their practice as Public Vaccinators. I found, however, that there was some increase in the practice of vaccination and re-vaccination among other practitioners of the borough, though to what extent, or how far satisfactorily performed, I was unable to determine.

As, however, three of the Public Vaccinators were only in attendance one afternoon in each week at their respective vaccination stations, and the fourth at one station only on one afternoon in each week throughout the year, and at another on each Wednesday afternoon in February, May, August, and November, I communicated with the Board of Guardians with the result that the days and hours of attendance of every Public Vaccinator were increased by two evenings in each week, and public notice of the fact was made by placard on January 27th, 1893. With all these efforts to increase the amount of protection, seven primary vaccinations of adults, and 161 re-vaccinations were performed by the Public Vaccinators between January 21st and March 10th, 1893.

It will thus be seen that the Corporation of the borough had the cordial assistance of the Salford Board of Guardians in its efforts to prevent a serious outbreak of small-pox in Salford, but, none the less, it is an anomalous position for a local sanitary authority that, while it is deeply concerned in the protection of its community against small-pox, the control and management of the local means of *prevention* are in the hands of another authority altogether, whose area of jurisdiction may or may not be co-equal with that of the sanitary authority.

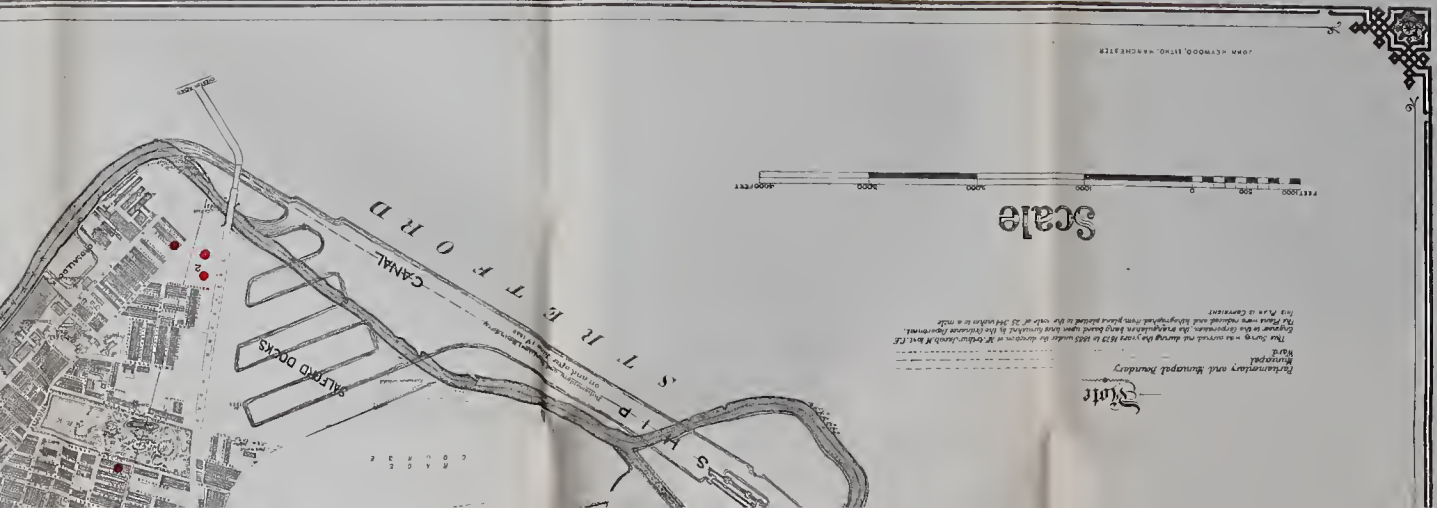
The first case, which may properly be considered as belonging to the outbreak of small-pox now under review, came under notice on September 18th, 1892; and was removed to hospital from a

W.D. & H.O. WILLS

Map shewing the total houses in the Borough where cases of Small-Pox occurred. A numeral against a dot indicates the total number of cases occurring in that house.



The first of the two main branches of the Health Department is the branch of the Health Department which is concerned with the control of the spread of infectious diseases. This branch is divided into two main sections, the first of which is the section which is concerned with the control of the spread of infectious diseases, and the second of which is the section which is concerned with the control of the spread of infectious diseases. The second of the two main branches of the Health Department is the branch of the Health Department which is concerned with the control of the spread of infectious diseases. This branch is divided into two main sections, the first of which is the section which is concerned with the control of the spread of infectious diseases, and the second of which is the section which is concerned with the control of the spread of infectious diseases.



on September 18th, 1892, and was removed to hospital from a

common lodging-house. The patient was a mechanic from Sowerby Bridge in Yorkshire, but who had probably been infected at Stalybridge, on his way to Warrington and then on to Salford. He had only been in Salford for three days when he sickened of the disease. There was then an interval of three months, when a case was notified on December 22nd. and another one on December 24th, the former was a navvy on the Manchester Ship Canal works, who had lodged in Salford only three days, and had probably been infected at Warrington, the latter was employed in Manchester. Two other cases were notified on December 29th, both of which probably contracted the disease from Manchester. No further cases came under notice then till January 10th, 1893, when the little daughter of the fifth case was found to be suffering from small-pox. From this time on there was a steady increase of fresh cases, which continued with a single exception during every week until the week ending September 2nd, 1893. The total number of cases which came under notice was 173, spread over a period, if the first case be left out of calculation, of some nine months.

Table I., on page 30, shows the weekly incidence of fresh small-pox cases during the epidemic, and the further tabular statement is a summarised account of each of the 173 cases in respect of their age, sex, type of disease, death or recovery, with other details, and a brief statement of the probable source of infection as made out after careful enquiries into each case as it arose.

Map No. I. shows by means of red dots the total houses in the Borough in which cases of small-pox occurred, and, where more than one case occurred in any house, the total number of cases occurring in it, is denoted by a numeral against the dot.

DETAILED STATEMENT IN RESPECT OF CASES OF SMALL-POX OCCURRING
YEARS 1892

| No. | Name. | Sex. | Age. | Notification. | Rash. | Removal to Hospital. | Type of Disease. | Result. |
|-----|------------|------|----------|----------------|----------------|----------------------------|------------------------|------------|
| 1 | T. E. B. | M. | 15 years | Sept. 18, 1892 | Sept. 18, 1892 | Sept. 18, 1892 | Semi-Confluent | Recovered |
| 2 | R. H. | M. | 31 " | Dec. 22, " | Dec. 22, " | Dec. 22, " | " " | " |
| 3 | S. A. B. | F. | 35 " | " 24, " | " 22, " | " 24, " | " " | " |
| 4 | R. W. | M. | 41 " | " 29, " | " 29, " | " 29, " | Hæmorrhagic. | Died |
| 5 | E. A. | M. | 40 " | " 29, " | " 25, " | " 29, " | Discrete | Recovered |
| 6 | M. E. A. | F. | 7½ " | Jan. 10, 1893 | ..... | Jan. 10, 1893 | Confluent .. | " |
| 7 | G. S. | M. | 25 " | " 11, " | Jan. 11, 1893 | " 11, " | Discrete | " |
| 8 | J. K. | M. | 29 " | " 15, " | " 14, " | " 15, " | " | " |
| 9 | J. E. B. | F. | 32 " | " 20, " | " 16, " | " 20, " | " | " |
| 10 | S. H. | M. | 20 " | " 20, " | ..... | " 20, " | Semi-Confluent | " |
| 11 | H. E. | M. | 20 " | " 24, " | " 23, " | " 24, " | Confluent | " |
| 12 | W. S. | M. | 21 " | " 26, " | " 25, " | " 26, " | Discrete | " |
| 13 | H. L. | M. | 2¾ " | " 24, " | ..... | " 24, " | Confluent | Died |
| 14 | S. K. | F. | 26 " | " 27, " | " 27, " | " 27, " | " | Recovered |
| 15 | E. L. | F. | 20 " | " 27, " | " 22, " | " 27, " | Discrete | " |
| 16 | T. W. | M. | 31 " | " 27, " | ..... | " 27, " | Confluent | Died |
| 17 | S. T. | M. | 21 " | " 27, " | " 23, " | " 27, " | Discrete | Recovered |
| 18 | T. S. | M. | 7 " | " 28, " | " 28, " | " 28, " | Confluent | " |
| 19 | W. S. | M. | 22 " | " 30, " | " 30, " | " 30, " | Discrete | " |
| 20 | A. U. | M. | 5 " | " 28, " | " 27, " | " 28, " | " | " |
| 21 | A. W. | F. | 21 " | " 30, " | " 30, " | " 31, " | " | " |
| 22 | J. S. | M. | 10 " | " 30, " | " 28, " | " 30, " | Confluent | " |
| 23 | J. U. | M. | 50 " | " 30, " | " 25, " | " 30, " | Discrete | " |
| 24 | J. S. | M. | 38 " | " 31, " | " 30, " | " 31, " | Confluent | " |
| 25 | C. A. | M. | 13 " | Feb. 1, " | " 31, " | Feb. 1, " | Discrete | " |
| 26 | A. J. F. | F. | 36 " | " 1, " | " 31, " | " 1, " | Confluent | " |

EXPLANATION OF SYMBOLS:—F. = Foveated; Un-F. = Un-Foveated;

IN SALFORD DURING THE EPIDEMIC OF THAT DISEASE, DURING THE
AND 1893.

| Date of Discharge. | Days in Hospital. | VACCINATION. | | NO. OF OTHER INMATES OF HOUSES. | | | | | Particulars of the several cases, and probable sources of infection. |
|--------------------|-------------------|---------------|--------------------------------------|---------------------------------|----------|------------------|---------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| | | Date. | Number and Character of Marks. | Males. | Females. | Vac- cinated. | Un-Vac- cinated. | Re-Vac- cinated. | |
| Oct. 18, 1892 | 32 | Infancy | 3 F. $\frac{1}{2}$ | 18 | 1 | 19 | .. | .. | { Tramped from Stalybridge. Wife of lodging-house keeper re-vaccinated. |
| Feb. 14, 1893 | 54 | .. | 3 Un-F. $\frac{1}{2}$.. | 50 | .. | 50 | .. | 10 | |
| Jan. 24, .. | 32 | Childhood.. | 1 F. $\frac{1}{2}$ | 1 | 1 | 2 | .. | 1 | { Employed in an establishment in Manchester. Cab-Driver. |
| Dec. 30, 1892 | 2 | Not vacc'd. | .. | 2 | .. | 2 | .. | 1 | |
| Feb. 10, 1893 | 44 | Childhood... | 3 F. $\frac{1}{2}$ | 2 | 3 | 5 | .. | 2 | { Fustian-Cutter at home—Fustian from Manchester. Daughter of Case 5. |
| Mar. 21, .. | 71 | Infancy..... | 2 Un-F. $\frac{1}{4}-\frac{1}{2}$ | 2 | 2 | 4 | .. | 2 | |
| Feb. 3, .. | 24 | Childhood... | 2 Un-F. $\frac{1}{4}$.. | 1 | 1 | 2 | .. | .. | { Blacksmith at Harpurhey, where disease was likely to have been contracted. |
| „ 24, .. | 40 | „ | 2 F. $\frac{1}{4}-\frac{1}{2}$ | 7 | 2 | 9 | .. | 3 | |
| Mar. 10, .. | 50 | Infancy..... | 2 F. $\frac{1}{2}$ | 1 | 2 | 3 | .. | .. | { Tramped from Warrington. Caught off fellow-servant at Brooklands. Came home poorly. |
| „ 10, .. | 50 | ? | No marks visible | Tramp | Ward. | .. | .. | .. | |
| Feb. 27, .. | 35 | Childhood . | 2 F. $\frac{1}{4}-\frac{1}{2}$ | 3 | 5 | 6 | 2 | 2 | { Came over from "The Rest" common lodging-house, Mane'ter. Tramped from Pately Wood. |
| „ 18, .. | 24 | Infancy..... | 1 F. $\frac{1}{2}$ | .. | 1 | 1 | .. | .. | |
| „ 28, .. | 26 | Not vacc'd. | ..... | 2 | 8 | 10 | .. | .. | { Brother of No. 7. Had refused to be re-vaccinated. Origin doubtful. |
| „ 25, .. | 30 | Infancy | 4 Un-F. $\frac{1}{4}-\frac{1}{2}$ | 1 | 2 | 1 | 2 | .. | |
| „ 11, .. | 16 | „ | 4 F. over $\frac{1}{2}$.. | 1 | 1 | 2 | .. | .. | { Charwoman. Cases already in this street, Nos. 3 and 4. Tailoress. Origin doubtful. |
| „ 8, .. | 13 | „ | 2 F. $\frac{1}{4}-\frac{1}{2}$ | Tramp | Ward. | .. | .. | .. | |
| „ 18, .. | 23 | „ | 3 Un-F. $\frac{1}{4}-\frac{1}{2}$ | .. | „ | .. | .. | .. | { Tramped from Bolton. „ „ Rochdale. |
| Apr. 24, .. | 86 | Not vacc'd. | ..... | .. | 2 | 2 | .. | 1 | |
| Feb. 18, .. | 19 | Infancy.... | 4 F. $\frac{1}{2}$ | 13 | 4 | 17 | .. | 1 | { Probably connected with Cases 5 and 6. From fellow-lodger, gone on to Liverpool. In Hope Infirmary one day. |
| „ 18, .. | 22 | Not vacc'd. | ..... | 10 | 4 | 11 | 3 | 5 | |
| Apr. 8, .. | 68 | Infancy..... | 4 F. $\frac{1}{2}$ | 1 | 5 | 6 | .. | 2 | { Tramped from St. Helens. Same lodging-house as Case 8. From a fellow mill-hand. |
| Mar. 6, .. | 35 | Not vacc'd. | .. | 3 | 2 | 5 | .. | .. | |
| Feb. 18, .. | 22 | Infancy..... | 2 F. $\frac{1}{4}-\frac{1}{2}$ | 4 | 1 | 5 | .. | .. | { School-boy at St. Bartholomew's School, Tatton St. Origin doubtful. Shoemaker. Had rash on during work for two days. |
| Mar. 25, .. | 54 | Not vacc'd | ..... | 1 | 2 | 3 | .. | .. | |
| Feb. 17, .. | 17 | Infancy. . . | 2 F. $\frac{1}{4}-\frac{1}{2}$ | 1 | 5 | 6 | .. | 1 | { Seeking work in Manchester up to a fortnight before obtaining work in Salford. Office boy in warehouse, Bloom Street, Manchester. |
| Apr. 8, .. | 36 | „ | 1 F. $\frac{1}{4}-\frac{1}{2}$ | 1 | 3 | 4 | .. | .. | |

Fractions—Area in terms of superficial inch square.

DETAILED STATEMENT OF CASES OF

| No. | Name. | Sex. | Age. | Notification. | Rash. | Removal to Hospital. | Type of Disease. | Result. |
|-----|------------|------|----------|---------------|--------------|----------------------------|------------------------|------------|
| 27 | T. K. ... | M. | 34 years | Feb. 2, 1893 | Feb. 1, 1893 | Feb. 2, 1893 | Confluent | Died |
| 28 | M. K. | M. | 20 " | " 7, " | " 5, " | " 7, " | " | Recovered |
| 29 | E. G. ... | F. | 6½ " | " 8, " | " 4, " | " 9, " | " | " |
| 30 | W. B. | M. | 54 " | " 9, " | " 9, " | " 9 " | " | " |
| 31 | F. L. W. | M. | 30 " | " 11, " | " 11, " | " 11, " | Discrete | " |
| 32 | S. A. W. | F. | 27 " | " 11, " | " 8, " | " 11, " | Confluent | Died |
| 33 | W. W. ... | M. | 14 weeks | " 11, " | " 8, " | " 11, " | " | " |
| 34 | W. C. | M. | 16 years | " 11, " | " 9, " | " 11, " | Discrete | Recovered |
| 35 | F. W. U. | M. | 14 " | " 11, " | " 11, " | " 11, " | Confluent | " |
| 36 | F. E. U. | M. | 20 " | " 11, " | " 11, " | " 11, " | Discrete | " |
| 37 | J. W. | M. | 11 " | " 12, " | " 12, " | " 12 " | Confluent | " |
| 38 | S. H. B. | M. | 25 " | " 13, " | " 9, " | " 13, " | Discrete | " |
| 39 | E. B. ... | F. | 28 " | " 13, " | " 11, " | " 13, " | Confluent | " |
| 40 | T. W. | M. | 46 " | " 13, " | " 12, " | " 13, " | Discrete | " |
| 41 | E. N. | F. | 17 " | " 14, " | " 14, " | " 14, " | " | " |
| 42 | F. L. ... | F. | 4 " | " 14, " | " 12, " | " 14, " | Confluent | " |
| 43 | S. A. ... | F. | 27 " | " 16, " | " 15, " | " 16, " | Discrete | " |
| 44 | S. A. K. | F. | 34 " | " 17, " | " 13, " | " 17, " | Confluent | Died |
| 45 | A. K. | F. | 2 " | " 17, " | " 14, " | " 17, " | " | Recovered |
| 46 | F. C. ... | F. | 25 " | " 18, " | " 18, " | " 18, " | Discrete | " |
| 47 | M. C. | M. | 34 " | " 20, " | " 18, " | " 20, " | " | " |
| 48 | J. I. ... | M. | 14 m'ths | " 20, " | " 17, " | " 20, " | Confluent | " |
| 49 | M. A. K. | F. | 25 years | " 20, " | " 20, " | " 20, " | " | " |
| 50 | H. B. | F. | 30 " | " 22, " | " 19, " | " 22, " | Discrete | " |
| 51 | J. A. ... | M. | 41 " | " 22, " | " 19, " | " 22, " | " | " |
| 52 | H. L. | M. | 20 " | " 22, " | " 20, " | " 22, " | " | " |

EXPLANATION OF SYMBOLS:—F.=Foveated; Un-F.=Un-Foveated;

SMALL-POX, 1892 AND 1893.—*Continued.*

| Date of Discharge. | Days in Hospital. | VACCINATION. | | NO. OF OTHER INMATES OF HOUSES. | | | | | Particulars of the several cases, and probable source of infection. |
|--------------------|-------------------|--------------|--------------------------------|---------------------------------|----------|--------------|-----------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Date. | Number and Character of Marks. | Males. | Females. | Vac-einated. | Un-Vac-einated. | Re-Vac-einated. | |
| Feb. 7, 1893 | 6 | Not vacc'd. | ..... |  | 1 | 1 | ... | ... | { Butcher. Had been staying at night in various houses in Manchester. |
| Mar. 6, .. | 27 | Infancy ... | 3 F. over ½ | 2 | 3 | 5 | ... | ... | |
| Apr. 12, .. | 63 | Not vacc'd. | ..... | 1* | 2 | 3 | ... | ... | *Has had Small-pox. Origin doubtful. |
| Mar. 2, .. | 22 | Infancy ... | 2 Un-F. ¼-½ | 3 | ... | 3 | ... | ... | Master of Case No. 23. |
| " 6, " | 24 | " ... | 2 Un-F. ¼-½ | } 4 | .. | 3 | ... | ... | Caught at mill, from cases which had occurred there. |
| Feb. 15, " | 5 | Not vacc'd. | ..... |  |  |  |  |  |  |
| " 15, " | 5 | Not vacc'd. | ..... | ... | ... | ... | ... | ... | Child of Cases 31 and 32. |
| " 23, " | 13 | Childhood... | 4 F. over ½ | 4 | 4 | 8 | ... | ... | Fellow-worker of Case 23. |
| Mar. 23, .. | 41 | Not vacc'd. | ..... | } 3 | 1 | 4 | ... | ... | { Children of Case 23. The household positively refused vaccination or re-vaccination, with the result as seen here. |
| Feb. 23, .. | 13 | Infancy ... | 1 Un-F. under ¼ | | | | | | |
| Mar. 6, " | 23 | Childhood... | 3 F. over ½ | 5* | 4 | 9 | ... | ... | *One had Small-pox. Belongs to a "Nigger Troupe." |
| " 4, " | 19 | " ... | 3 F. over ½ | } .. | ... | ... | ... | ... | { From cases next door, Nos. 23, 35 and 36. No other inmates of house. |
| Apr. 15, " | 61 | " ... | 3 F. over ½ | | | | | | |
| Mar. 2, " | 18 | " ... | 3 F. ¼-½..... | 3 | 4 | 7 | ... | ... | Infection from Case 29. |
| " 27, " | 41 | Infancy ... | 4 Un-F. over ½ | 1 | 1 | 2 | ... | ... | Infection from Case 24. |
| Apr. 8, " | 53 | Not vacc'd. | ..... | 2 | 2 | 4 | ... | ... | " " |
| Mar. 11, " | 24 | Infancy ... | 1 F. ¼-½ | 2 | 2 | 4 | ... | ... | From a case in Rochdale Rd., M'ch'ter. |
| Feb. 25, " | 9 | " ... | 2 Un-F. ¼-½ | } 2 | 4 | 6 | ... | ... | { Husband and father of these cases had been ill with a rash; illness had not been believed to be infectious by the medical attendant. Strong suspicion that it was a modified case of Small-pox. |
| Apr. 19, " | 62 | Not vacc'd. | ..... |  |  |  |  |  |  |
| Mar. 22, " | 33 | Infancy ... | 3 F. over ½ | 2 | 2 | 4 | ... | ... | Caught off friend in Stockport Road, Manchester. |
| Apr. 15, " | 55 | " ... | 1 F. ¼-½..... | 2 | 2 | 4 | ... | ... | Visitor at home of Cases 44 and 45. |
| " 8, " | 48 | Not vacc'd. | ..... | 1 | 1 | 2 | ... | ... | Origin obscure. |
| " 17, " | 57 | Not vacc'd. | ..... | 1 | 2 | 2 | 1 | 1 | Police officer in M'chester Force. |
| Mar. 22, " | 28 | Infancy ... | 1 Un-F. under ¼ | 2 | 1 | 3 | ... | ... | Origin uncertain. |
| Apr. 8, " | 45 | " ... | 2 Un-F. ¼-½ | 1 | 3 | 4 | ... | ... | Engaged at Monsall Hospital building operations. |
| Mar. 13, " | 22 | " ... | 1 Un-F. under ¼ | 4 | 2 | 6 | ... | ... | Probably from Cases 44 and 45. |

Fractions = Area in terms of superficial inch square.

DETAILED STATEMENT OF CASES OF

| No. | Name. | Sex. | Age. | Notification. | Rash. | Removal to Hospital. | Type of Disease. | Result. |
|-----|-----------|------|----------|---------------|---------------|----------------------------|------------------------|------------|
| 53 | R. P. ... | M. | 52 years | Feb. 24, 1893 | Feb. 23, 1893 | Feb. 24, 1893 | Confluent ... | Recovered |
| 54 | J. D. ... | M. | 31 " | " 26, " | " 26, " | " 26, " | Discrete | " |
| 55 | A. T. P. | M. | 27 " | " 28, " | " 28, " | " 28, " | " | " |
| 56 | E. McN. | M. | 51 " | Mar. 4, " | Mar. 2, " | Mar. 4, " | Confluent ... | " |
| 57 | E. C. ... | F. | 17 " | " 4, " | " 4, " | " 4, " | Discreet | " |
| 58 | L. H. ... | F. | 5½ " | " 5, " | " 5, " | " 5, " | Confluent | " |
| 59 | M. S. ... | F. | 32 " | " 4, " | " 4, " | " 4, " | Discreet | " |
| 60 | A. K.... | F. | 30 " | " 6, " | " 4, " | " 6, " | " | " |
| 61 | M. D.... | F. | 27 " | " 7, " | " 5, " | " 7, " | " | " |
| 62 | F. H. ... | F. | 32 " | " 7, " | " 6, " | " 7, " | Confluent | " |
| 63 | C.W.McC. | M. | 30 " | " 8, " | " 8, " | " 8, " | Discrete | " |
| 64 | T. J. ... | M. | 49 " | " 9, " | " 7, " | " 9, " | Confluent | " |
| 65 | A. S. ... | M. | 21 " | " 11, " | " 10, " | " 11, " | Discrete | " |
| 66 | F. S. ... | M. | 38 " | " 11, " | " 10, " | " 11, " | " | " |
| 67 | A. B. ... | F. | 12 " | " 12, " | " 11, " | " 12, " | " | " |
| 68 | J. N. T. | M. | 19 " | " 16, " | " 14, " | " 16, " | " | " |
| 69 | W. C.... | M. | 24 " | " 17, " | " 15, " | " 17, " | Confluent | Died |
| 70 | D. M. ... | M. | 28 " | " 18, " | " 17, " | " 18, " | Discrete | Recovered |
| 71 | H. B.... | M. | 30 " | " 20, " | " 16, " | " 20, " | " | " |
| 72 | W.H.H. | M. | 31 " | " 21, " | " 20, " | " 21, " | Semi C'nfluent | " |
| 73 | E. S. ... | F. | 15 " | " 22, " | " 18, " | " 22, " | Confluent | Died |
| 74 | J. B. J. | M. | 41 " | " 22, " | " 21, " | " 22, " | " | Recovered |
| 75 | W. F.... | M. | 24 " | " 25, " | " 25, " | " 25, " | " | " |
| 76 | W. C.... | M. | 32 " | " 28, " | " 26, " | " 28, " | " | " |
| 77 | A. S. ... | F. | 3 m'ths | " 28, " | " 23, " | " 28, " | " | Died ... |
| 78 | H. W. ... | M. | 48 years | " 29, " | " 28, " | " 29, " | " | Recovered |

EXPLANATION OF SYMBOLS :—F. = Foveated ; Un-F. = Un-Foveated ;

SMALL-POX, 1892 AND 1893.—Continued.

| Date of Discharge. | Days in Hospital. | VACCINATION. | | NO. OF OTHER INMATES OF HOUSES. | | | | | Particulars of the several cases, and probable sources of infection. |
|--------------------|-------------------|---------------|--------------------------------------|---------------------------------|----------|--------------|-----------------|-----------------|----------------------------------------------------------------------------------------------|
| | | Date. | Number and Character of Marks. | Males. | Females. | Vac-cinated. | Un-Vac-cinated. | Re-Vac-cinated. | |
| Mar. 25, 1893 | 32 | Infancy ... | 2 Un-F. $\frac{1}{4}-\frac{1}{2}$ | ... | 1 | 1 | ... | 1 | Possibly from Case 27. |
| " 26, " | 31 | Childhood ... | 3 Un-F. $\frac{1}{4}-\frac{1}{2}$ | 14 | ... | 13 | 1 | 6 | Tramped from Barrow through Bolton, Oldham, & Stockport. |
| Apr. 5, " | 37 | Infancy ... | 3 F. over $\frac{1}{2}$ | 3 | 2 | 5 | ... | ... | Possibly from Case 30. |
| " 29, " | 57 | " ... | 2 Un-F. under $\frac{1}{4}$ | 2 | 2 | 4 | ... | ... | Origin obscure. |
| Mar. 24, " | 19 | " ... | 2 F. $\frac{1}{4}-\frac{1}{2}$ | 4 | 3 | 7 | ... | ... | Possibly by frequenting theatres: source otherwise obscure. |
| Apr. 15, " | 42 | Not vacc'd. | ..... | 2 | 2 | 3 | 1 | ... | Origin doubtful. |
| Mar. 22, " | 19 | Childhood ... | 2 Un-F. under $\frac{1}{4}$ | 39 | 4 | 7 | ... | 16 | " " Wife of deputy-keeper of lodging-house. |
| Apr. 8, " | 34 | Infancy ... | 3 F. over $\frac{1}{2}$ | 1 | 5 | 6 | ... | ... | Probably from Case 46. |
| " 8, " | 33 | " ... | 2 Un-F. $\frac{1}{4}-\frac{1}{2}$ | 3 | 2 | 5 | ... | ... | From previous Case 47, in same house. |
| " 22, " | 47 | " ... | 3 Un-F. $\frac{1}{4}-\frac{1}{2}$ | 1 | ... | 1 | ... | ... | From previous Case 43, in same house. |
| " 8, " | 32 | " ... | 3 F. $\frac{1}{2}$ | 2 | 2 | 3 | 1 | ... | Whilst at work at Monsall Hospital, Manchester. |
| " 8, " | 31 | " ... | 3 F. $\frac{3}{4}$ | 2 | 1 | 3 | ... | ... | Possibly from visiting in Newton Heath, where the disease was prevalent. |
| Mar. 20, " | 10 | " ... | 2 F. $\frac{1}{2}$ | 3 | 5 | 8 | ... | ... | Origin doubtful. |
| Apr. 8, " | 29 | Childhood .. | 1 F. $\frac{1}{2}$ | 46 | 4 | ... | ... | 16 | From his wife, Case 59. |
| " 8, " | 28 | Infancy ... | 1 F. $\frac{1}{4}-\frac{1}{2}$ | 5 | 1 | 6 | ... | ... | Origin doubtful. |
| " 6, " | 22 | " ... | 2 F. over $\frac{1}{2}$ | 1 | 3 | 4 | ... | ... | A tram-guard. Origin doubtful |
| Mar. 24, " | 8 | Not vacc'd. | ..... | 3 | 1 | 4 | ... | ... | Worked in Manchester. Origin doubtful. |
| Apr. 17, " | 31 | Infancy ... | 1 F. over $\frac{1}{2}$ | Tramp | Ward. | | | | Tramped from Bolton. |
| " 12, " | 24 | " ... | 2 Un-F. $\frac{3}{4}$... | 2 | 1 | 1 | 2 | ... | Had already been two cases from his place of work in Manchester. |
| " 15, " | 26 | " ... | 2 F. over $\frac{1}{2}$ | ... | 3 | 3 | ... | ... | From his daughter, Case 58. |
| " 6, " | 16 | Not vacc'd. | ..... | ... | 2 | 2 | ... | ... | Out of work, and had been traversing the streets of Manchester in search of employment. |
| " 15, " | 25 | Infancy ... | 2 Un-F. $\frac{1}{2}$... | ... | 4 | 4 | ... | ... | Origin doubtful. |
| May 13, " | 51 | Not vacc'd. | ..... | 1 | 1 | 2 | ... | ... | Same house as Case 73. |
| " 3, " | 48 | Infancy ... | 3 F. $\frac{1}{2}$ | 4 | 6 | 10 | ... | 2 | Origin doubtful. |
| Apr. 1, " | 5 | Not vacc'd | ..... | 1 | 1 | 2 | ... | ... | " " |
| May 13, " | 46 | Not vacc'd. | " | 1 | 3 | 2 | 2 | ... | Possibly from neighbourhood of Dore and Chinley Railway, where Small-pox was very prevalent. |

Fractions=Area in terms of superficial inch square.

DETAILED STATEMENT OF CASES OF

| No. | Name. | Sex. | Age. | Notification. | Rash. | Removal to Hospital. | Type of Disease. | Result. |
|-----|------------|------|----------|---------------|---------------|----------------------------|------------------------|------------|
| 79 | E. N. ... | M. | 18 years | Mar. 28, 1893 | Mar. 28, 1893 | Mar. 28, 1893 | Confluent | Recovered |
| 80 | J. W. W. | M. | 22 " | " 28, " | " 27, " | " 28, " | " | Died |
| 81 | H. C. ... | M. | 33 " | " 29, " | " 29, " | " 29, " | " | Recovered |
| 82 | J. N. ... | M. | 36 " | Apr. 1, " | Apr. 1, " | Apr. 1, " | Semi-C'nfluent | " |
| 83 | T. W. B. | M. | 23 " | " 1, " | Mar. 25, " | " 1, " | Discrete | " |
| 84 | T. B. ... | M. | 1 " | " 1, " | " 31, " | " 1, " | Confluent | Died |
| 85 | A. M. ... | F. | 20 " | " 2, " | " 31, " | " 2, " | Semi-C'nfluent | Recovered |
| 86 | A. W. R. | M. | 3 m'ths | " 2, " | " 31, " | " 2, " | Confluent | Died |
| 87 | G. W. ... | M. | 32 years | " 4, " | Apr. 2, " | " 4, " | Discrete | Recovered |
| 88 | J. T. D. | M. | 3 " | " 4, " | " 2, " | " 4, " | " | " |
| 89 | J. C. ... | M. | 32 " | " 6, " | " 6, " | " 6, " | Confluent | " |
| 90 | A. B. ... | M. | 3 " | " 6, " | " 5, " | " 6, " | Discrete | " |
| 91 | W. A. ... | M. | 33 " | " 6, " | " 6, " | " 6, " | " | " |
| 92 | R. H. ... | M. | 30 " | " 7, " | " 6, " | " 7, " | Semi-C'nfluent | " |
| 93 | J. G. ... | M. | 38 " | " 11, " | " 7, " | " 11, " | Discrete | " |
| 94 | J. C. ... | M. | 34 " | " 11, " | ..... | " 11, " | " | " |
| 95 | E. S., Sr. | F. | 48 " | " 12, " | " 11, " | " 12, " | Confluent | " |
| 96 | E. S., Jr. | F. | 14 " | " 12, " | " 11, " | " 12, " | Discrete | " |
| 97 | E. B. ... | F. | 19 " | " 12, " | " 10, " | " 12, " | " | " |
| 98 | R. B. ... | F. | 11 " | " 13, " | " 12, " | " 13, " | Confluent | " |
| 99 | B. B. ... | F. | 9 " | " 15, " | " 14, " | " 15, " | Discrete | " |
| 100 | D. T. ... | M. | 35 " | " 16, " | " 15, " | " 17, " | Confluent | Died |
| 101 | M. E. W. | F. | 1 " | " 17, " | " 10, " | " 17, " | Discrete | Recovered |
| 102 | A. S. ... | F. | 19 " | " 17, " | " 15, " | " 17, " | " | " |
| 103 | L. A. W. | F. | 3 " | " 17, " | " 16, " | " 17, " | " | " |
| 104 | ... | M. | 14 " | " 17, " | " 13, " | " 17, " | " | " |

EXPLANATION OF SYMBOLS :—F.=Foveated ; Un-F.=Un-Foveated ;

SMALL-POX, 1892 AND 1893.—*Continued.*

| Date of Discharge. | Days in Hospital. | VACCINATION. | | NO. OF OTHER INMATES OF HOUSES. | | | | | Particulars of the several cases, and probable source of infection. |
|--------------------|-------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------|--------------|-----------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Date. | Number and Character of Marks. | Males. | Females. | Vac-cinated. | Un-Vac-cinated. | Re-Vac-cinated. | |
| May 4, 1893 | 39 | Infancy | 3 F. $\frac{1}{2}$ | Tramp | Ward. | | | | Roving about Manchester in search of employment. |
| Apr. 5, " | 9 | " | 1 Un-F. under $\frac{1}{2}$ | Tramp | Ward. | | | | As Case 78. |
| June 10, " | 74 | Childhood | $\left\{ \begin{array}{l} \text{Arms had been} \\ \text{amputated} \\ \text{after railway} \\ \text{accident.} \end{array} \right\}$ | 25 | ... | 25 | ... | 8 | " " |
| May 13, " | 43 | Infancy | 2 F. over $\frac{1}{2}$ | 2 | 3 | 5 | ... | ... | Detective in police force. |
| Apr. 29, " | 29 | " | 3 F. over $\frac{1}{2}$ | 2 | 1 | 3 | ... | 2 | Navy on Ship Canal. Origin doubtful. |
| " 6, " | 6 | Not vacc'd. | ..... | 1 | 1 | 1 | 1 | ... | From Case 71. |
| May 13, " | 42 | Infancy | 3 Un-F over $\frac{1}{2}$ | 1 | 4 | 5 | ... | ... | Origin doubtful. |
| Apr. 6, " | 6 | Not vacc'd. | ..... | 1 | 2 | 3 | ... | ... | " " |
| " 19, " | 16 | Infancy | No marks visible | 4 | 4 | 6 | 2 | ... | { Been looking for work in Manchester and neighbourhood. Origin doubtful. |
| " 15, " | 12 | " | 3 Un-F $\frac{1}{4}$.. | 1 | 1 | 2 | ... | 1 | |
| May 4, " | 29 | Not vacc'd. | ..... | Called at | Dr's Surgery | | | | Tramp from Oldham. |
| " 24, " | 49 | Apr. 1, 1893 | ..... | ... | 1 | 1 | ... | ... | Brother of Case 84, and child of Case 71. |
| Apr. 15, " | 10 | Infancy | 4 F. $\frac{3}{4}$ | ... | 3 | 3 | ... | ... | Origin doubtful. |
| May 13, " | 37 | " | 3 F. over $\frac{1}{2}$ | 1 | 2 | 3 | ... | ... | " " |
| Apr. 18, " | 8 | " | 1 F. $\frac{1}{4}$ - $\frac{1}{2}$ | ... | 1 | 1 | ... | ... | " " |
| May 13, " | 34 | " | 2 Un-F. $\frac{1}{4}$.. | Called at | Dr's Surgery | | | | Tramped from Oldham. |
| " 27, " | 46 | " | 4 F. over $\frac{1}{2}$ | 3 | 4 | 7 | ... | 1 | { A daughter of this patient had recently suffered from what was thought to be a severe attack of Chicken-Pox: she was nursed by this patient. Daughter of Case 95. |
| " 4, " | 23 | " | 3 F. over $\frac{1}{2}$ | 3 | 4 | 7 | ... | 1 | |
| Apr. 27, " | 16 | " | No marks visible | 5 | 6 | 10 | 1 | ... | Origin doubtful. |
| June 5, " | 54 | " | 3 F. $\frac{1}{4}$ - $\frac{1}{2}$ | 1 | 3 | 4 | ... | 1 | { From a previous case, since removed to hospital in Manchester, but who had slept at this house. Same as Case 98. |
| May 13, " | 29 | Not vacc'd. | ..... | 1 | 2 | 3 | ... | 1 | |
| Apr. 23, " | 7 | Infancy | 2 F. $\frac{1}{4}$ | 2 | 1 | 3 | ... | ... | Origin doubtful. |
| May 13, " | 27 | " | 2 F. $\frac{1}{2}$ | 4 | 3 | 7 | ... | 4 | Same house as Case 78. |
| " 13, " | 27 | " | 2 F. over $\frac{1}{2}$ | 3 | 5 | 8 | ... | 1 | " " Cases 95 and 96. |
| June 10, " | 55 | Not vacc'd. | ..... | 5 | 3 | 7 | 1 | ... | From Case 87 in same house. |
| May 4, " | 18 | Infancy | 2 F. over $\frac{1}{2}$ | 4 | 6 | 10 | ... | ... | Said to have been contracted at Glossop. |

Fractions = Area in terms of superficial inch square.

DETAILED STATEMENT OF CASES OF

| No. | Name. | Sex. | Age. | Notification | Rash. | Removal to Hospital. | Type of Disease. | Result. |
|-----|-----------|------|----------|---------------|---------------|----------------------------|------------------------|------------|
| 105 | T. A. ... | M. | 32 years | Apr. 18, 1893 | Apr. 17, 1893 | Apr. 18, 1893 | Confluent | Died |
| 106 | E. M. ... | F. | 31 " | " 19, " | " 18, " | " 19, " | Discrete | Recovered |
| 107 | F. W. J. | M. | 31 " | " 19, " | " 17, " | " 19, " | Semi C'nfluent | " |
| 108 | J. C. ... | M. | 26 " | " 20, " | " 17, " | " 20, " | " | " |
| 109 | C. R. ... | M. | 39 " | " 20, " | " 20, " | " 20, " | Confluent | " |
| 110 | S. C. P. | M. | 19 " | " 21, " | " 20, " | " 21, " | Discrete | " |
| 111 | S. O. M. | F. | 23 " | " 21, " | " 21, " | " 21, " | Confluent | " |
| 112 | E. C. ... | F. | 26 " | " 24, " | " 22, " | Not removed | Discrete | " |
| 113 | G. R. ... | M. | 52 years | " 22, " | " 20, " | " 22, " | Hæmorrhagic | Died |
| 114 | E. A. ... | M. | 35 " | " 25, " | " 25, " | " 26, " | Discrete | Recovered |
| 115 | M. E. D. | F. | 20 " | " 25, " | " 24, " | " 25, " | Semi C'nfluent | " |
| 116 | E. T. ... | F. | 30 " | " 27, " | " 27, " | " 27, " | " " | " |
| 117 | E. T. ... | F. | 11 " | " 28, " | " 27, " | " 28, " | " " | " |
| 118 | H. W. ... | M. | 18 " | May 2, " | " 28, " | May 2, " | Discrete | " |
| 119 | M. A. H. | F. | 19 " | " 3, " | May 3, " | " 4, " | Confluent .. | " |
| 120 | K. H. ... | F. | 19 " | " 4, " | " 1, " | " 4, " | " | " |
| 121 | P. G. ... | M. | 50 " | " 4, " | " 1, " | " 4, " | Hæmorrhagic | Died |
| 122 | W. W. ... | M. | 14 " | " 6, " | " 4, " | " 6, " | Semi C'nfluent | Recovered |
| 123 | E. W. ... | M. | 15 " | " 6, " | " 6, " | " 6, " | Discrete | " |
| 124 | J. H. E. | M. | 21 " | " 8, " | " 6, " | " 8, " | " | " |
| 125 | E. H. ... | M. | 2 " | " 8, " | " 8, " | " 8, " | Semi C'nfluent | " |
| 126 | W. D. ... | M. | 15 " | " 10, " | " 9, " | " 10, " | Confluent | " |
| 127 | J. B. ... | M. | 55 " | " 12, " | " 11, " | " 12, " | Discrete | " |
| 128 | J. H. ... | M. | 23 " | " 15, " | " 11, " | " 15, " | " | " |
| 129 | W. B. ... | M. | 62 " | " 17, " | " 16, " | " 17, " | " | " |
| 130 | E. P. ... | M. | 33 " | " 20, " | " 18, " | " 20, " | Confluent | " |

EXPLANATION OF SYMBOLS:—F. = Foveated; Un-F. = Un-Foveated;

SMALL-POX, 1892 AND 1893.—Continued.

| Date of Discharge. | Days in Hospital. | VACCINATION. | | NO. OF OTHER INMATES OF HOUSES. | | | | | Particulars of the several cases, and probable sources of infection. |
|--------------------|-------------------|--------------------------------------------|----------------------------------------|---------------------------------|----------|--------------|-----------------|-----------------|--------------------------------------------------------------------------------|
| | | Date. | Number and Character of Marks. | Males. | Females. | Vac-cinated. | Un-Vac-cinated. | Re-Vac-cinated. | |
| Apr. 23, 1893 | 16 | Childhood ... | 2 F. over $\frac{1}{2}$ | ... | 1 | ... | ... | ... | Been in contact with Case 83. |
| May 2, " | 14 | Infancy ... | 2 F. $\frac{1}{2}$... | 2 | 1 | 3 | ... | ... | Origin doubtful. |
| " 13, " | 25 | " ... | 2 F. $\frac{1}{2}$... | 4 | 3 | 7 | ... | 1 | { Been visited by friends from Warrington, where Small-pox was very prevalent. |
| " 13, " | 24 | " ... | 3 F. $\frac{1}{2}$... | 4 | 3 | 7 | ... | ... | |
| June 21, " | 63 | " ... | 1 Un-F. $\frac{1}{4}$... | 2 | 3 | 5 | ... | ... | Labourer at Salford Sewage Works. |
| May 20, " | 30 | " ... | 2 F. $\frac{1}{2}$... | 1 | 4 | 5 | ... | ... | Origin doubtful. |
| June 10, " | 41 | " ... | 1 F. $\frac{1}{2}$... | 2 | 1 | 3 | ... | ... | Visiting at house where case occurred. |
| ..... | ... | " ... | 2 F. $\frac{1}{4}$ - $\frac{1}{2}$... | 1 | 1 | 2 | ... | ... | Supposed to have been taken from a man on a tram-car. |
| Apr. 23, " | 2 | Infancy ... | 1 Un-F. $\frac{1}{4}$... | 2 | 2 | 4 | ... | ... | Grave-digger at Salford Cemetery. |
| May 13, " | 18 | Childhood ... | 2 F. $\frac{1}{2}$... | 12 | ... | 12 | ... | 10 | Origin doubtful. Worked at a mill in Manchester. |
| June 22, " | 59 | Infancy..... | 4 F. over $\frac{1}{2}$ | 6 | 2 | 8 | ... | ... | " " " |
| May 20, " | 24 | " ... | 2 Un-F. $\frac{1}{2}$... | 2 | ... | 2 | ... | ... | Same house as case 100 |
| June 22, " | 56 | Not vacc'd. | ..... | 2 | 1 | 3 | ... | ... | Origin doubtful. |
| May 13, " | 12 | Infancy ... | 1 Un-F. over $\frac{1}{2}$ | 4 | 5 | 9 | ... | ... | From case No. 100. |
| " 27, " | 24 | " ... | 1 Un-F. $\frac{1}{4}$ | 1 | 1 | 2 | ... | ... | Origin doubtful. |
| June 10, " | 38 | Not vacc'd. | ..... | 4 | 4 | 8 | ... | 1 | " " |
| May 5, " | 2 | Infancy ... | No marks visible | ... | 1 | 1 | ... | 1 | " " Labourer on the Manchester Ship Canal. |
| June 15, " | 41 | " ... | 2 Un-F. $\frac{1}{2}$ | 3 | 1 | 4 | ... | ... | Believed to have caught infection at place of business in Manchester. |
| May 20, " | 15 | " ... | 4 F. $\frac{1}{2}$ | 3 | 2 | 5 | ... | ... | Origin doubtful. |
| " 28, " | 21 | " ... | 3 F. over $\frac{1}{2}$ | 2 | 5 | 5 | 2 | ... | Same employment as, and neighbour of, case 121. |
| July 24, " | 78 | " ... | No marks visible | 2 | 3 | 5 | ... | ... | Possibly from man in a beer-house in Strangeways. |
| June 7, " | 29 | " ... | 4 Un-F. over $\frac{1}{2}$ | 5 | 2 | 7 | ... | 3 | Brother of case 115. |
| " 10, " | 30 | " ... | 4 F. over $\frac{1}{2}$ | 1 | 1 | 2 | ... | ... | Origin doubtful. |
| " 10, " | 27 | " ... | 2 F. $\frac{1}{2}$... | 3 | 3 | 6 | ... | ... | { Believed to have been caught from a patient at house in Hulme. |
| " 19, " | 34 | Stated to have been inoculated as a child. | ..... | Hope Hospital. | ... | ... | ... | ... | |
| July 22, " | 64 | Infancy ... | 1 F. over $\frac{1}{2}$ | 1 | 1 | 2 | ... | ... | Tramped from Bolton. |
| | | | | | | | | | Origin doubtful. |

Fractions=Area in terms of superficial inch square.

DETAILED STATEMENT OF CASES OF

| No. | Name. | Sex. | Age. | Notification. | Rash. | Removal to Hospital. | Type of Disease. | Result. |
|-----|-----------|------|----------|---------------|--------------|----------------------------|------------------------|--------------|
| 131 | F. H. . | M. | 24 years | May 26, 1893 | May 25, 1893 | May 26, 1893 | Discrete | Recovered |
| 132 | E. B. . . | F. | 8 " | " 29, " | " 27, " | " 29, " | " | " |
| 133 | A. J. . . | M. | 20 " | " 30, " | " 28, " | " 30, " | Confluent | Died |
| 134 | M. C. . . | F. | 29 " | " 30, " | " 25, " | Not removed | Discrete | Recovered |
| 135 | H. H. . . | F. | 25 " | " 31, " | " 29, " | May 31, " | Confluent | " |
| 136 | J. D. . . | M. | 28 " | June 1, " | June 1, " | June 1, " | Discrete | " |
| 137 | G. B. . . | M. | 32 " | " 11, " | " 11, " | " 12, " | Semi-C'nfluent | " |
| 138 | J. W. P. | M. | 35 " | " 14, " | " 14, " | " 14, " | " " | " |
| 139 | E. F. . . | M. | 28 " | " 17, " | " 16, " | " 17, " | Discrete | " |
| 140 | J. C. . . | M. | 28 " | " 19, " | " 19, " | " 19, " | Modified | " |
| 141 | A. W. S. | M. | 22 " | " 23, " | " 20, " | " 23, " | Discrete | " |
| 142 | W. L. . . | M. | 22 " | " 26, " | " 21, " | " 26, " | " | " |
| 143 | M. B. . . | F. | 40 " | " 28, " | " 28, " | " 28, " | Confluent | " |
| 144 | J. H. . . | M. | 32 " | July 4, " | July 2, " | July 4, " | Discrete | " |
| 145 | F. J. . . | M. | 26 " | " 3, " | June 30, " | " 3, " | Semi-C'nfluent | " |
| 146 | M. S. . . | F. | 20 " | " 8, " | July 7, " | " 8, " | Discrete | " |
| 147 | L. R. . . | M. | 4 " | " 8, " | " 6, " | " 8, " | " | " |
| 148 | R. C. . . | M. | 16 " | " 9, " | " 5, " | " 9, " | " | " |
| 149 | R. H. . . | M. | 17 " | " 11, " | " 10, " | " 11, " | Confluent | " |
| 150 | H. B. . . | M. | 17 " | " 15, " | " 13, " | " 15, " | Discrete | " |
| 151 | J. B. . . | F. | 8 " | " 17, " | " 14, " | " 17, " | Confluent | " |
| 152 | S. H. . . | F. | 30 " | " 17, " | " 12, " | " 17, " | " | " |
| 153 | R. C. . . | M. | 21 " | " 18, " | " 15, " | " 18, " | Discrete | " |
| 154 | C. G. . . | M. | 25 " | " 18, " | " 14, " | " 18, " | Confluent | " |
| 155 | E. L. . . | M. | 25 " | " 21, " | " 20, " | " 21, " | " | " |
| 156 | H. T. . . | M. | 22 " | " 22, " | " 20, " | " 22, " | Discrete | " |

EXPLANATION OF SYMBOLS:—F.=Foveated; Un-F.=Un-Foveated;

SMALL-POX, 1892 AND 1893.—*Continued.*

| Date of Discharge. | Days in Hospital | VACCINATION. | | NO. OF OTHER INMATES OF HOUSES. | | | | | Particulars of the several cases, and probable source of infection. |
|--------------------|------------------|--------------|------------------------------------------|---------------------------------|----------|--------------|-----------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------|
| | | Date. | Number and Character of Marks. | Males. | Females. | Vac-cinated. | Un-Vac-cinated. | Re-Vac-cinated. | |
| June 17, .. | 22 | Infancy .. | 3 F. over $\frac{1}{2}$ | ... | 2 | 2 | ... | ... | From case 124, next door. |
| July 8, .. | 41 | " .. | 3 F. over $\frac{1}{2}$ | 4 | 3 | 7 | ... | ... | Origin doubtful. |
| June 10, .. | 12 | " .. | 2 F. $\frac{1}{4}$ | 2 | 1 | 3 | ... | ... | " " |
| ..... | ... | " .. | 2 F. $\frac{1}{4}$ - $\frac{1}{2}$ | 1 | 1 | 2 | ... | ... | " " |
| " 6, .. | 7 | " .. | 3 F. over $\frac{1}{2}$ | 2 | 1 | 3 | ... | ... | " " |
| " 24, .. | 24 | " .. | 4 F. over $\frac{1}{2}$ | ... | 2 | 2 | ... | ... | From case in Manchester. |
| July 29, .. | 48 | " .. | 1 F. over $\frac{1}{2}$ | 1 | 3 | 4 | ... | ... | From case in Manchester, which occurred in a fellow-worker. |
| Aug. 5, .. | 53 | " .. | 1 Un-F. under $\frac{1}{4}$ | 2 | 4 | 6 | ... | ... | Possibly from Doncaster, where patient stayed 15 days before |
| July 15, .. | 29 | " .. | 2 F. over $\frac{1}{2}$ | 2 | 4 | 6 | ... | ... | Possibly from place in Manchester where he works. |
| " 13, .. | 25 | " .. | 1 F. $\frac{1}{2}$ | 2 | 1 | 2 | 1 | 1 | Possibly from lodging house in Hulme. |
| " 28, .. | 36 | " .. | 4 F. over $\frac{1}{2}$ | 1 | 1 | 2 | .. | ... | From fellow-worker at mill. |
| " 15, .. | 20 | " .. | 4 F. over $\frac{1}{2}$ | 1 | 2 | 3 | ... | ... | Same as case 141.—Same mill. |
| Aug. 26, .. | 60 | " .. | 2 Un-F. $\frac{1}{2}$... | Hope Hospital ... | | | | | Oldham 11 days before. |
| " 13, .. | 41 | " .. | 1 F. over $\frac{1}{4}$ | 1 | 2 | 2 | 1 | ... | Policeman, who, a fortnight before, had been called within the hospital boundary to eject roughs who had broken into the hospital. |
| " 5, .. | 34 | Not vacc'd. | ..... | 43 | 1 | 40 | 4 | 11 | Tramped from Sheffield. |
| July 30, .. | 23 | Infancy ... | 3 F. $\frac{1}{2}$ | 2 | 2 | 4 | ... | ... | Wife of case 141. |
| Aug. 1, .. | 25 | " .. | 3 F. over $\frac{1}{2}$ | 2 | 5 | 7 | ... | 1 | Origin doubtful. |
| July 24, .. | 16 | Childhood... | 3 F. over $\frac{1}{2}$ | 2 | 1 | 3 | ... | 1 | " " |
| Sep. 20, .. | 72 | Infancy ... | 3 F. $\frac{1}{4}$ | 1 | 5 | 6 | ... | ... | A barman. |
| July 29, .. | 15 | " .. | 3 F. over $\frac{1}{2}$ | 3 | 3 | 6 | ... | ... | Origin doubtful. |
| Aug. 30, .. | 45 | Not vacc'd. | ..... | 4 | 3 | 4 | 3 | ... | " " |
| Sep. 2, .. | 48 | Infancy ... | 3 F. over $\frac{1}{4}$ | ... | 1 | 1 | ... | ... | Wife of case 144. |
| Aug. 10, .. | 24 | " .. | 4 F. over $\frac{1}{2}$ | Infantry Barracks... | | | | | Origin uncertain. Had been visiting at various houses. |
| " 12, .. | 26 | " .. | 2 F. over $\frac{1}{2}$ | ... | 1 | 1 | ... | ... | From case 145. |
| " 16, .. | 27 | " .. | 3 F. over $\frac{1}{2}$ | Workhouse. .. | | | | | Possibly, but not certainly, from case 145. |
| " 9, .. | 19 | " .. | 1 F. $\frac{1}{4}$ | 2 | 3 | 5 | ... | ... | Been in company with case 150. |

Fractions = Area in terms of superficial inch square.

DETAILED STATEMENT OF CASES OF

| No. | Name. | ex. | Age. | Notification. | Rash. | Removal to Hospital. | Type of Disease. | Result. |
|-----|-------------|-----|----------|---------------|---------------|----------------------------|------------------------|-----------|
| 157 | J. M. ... | M. | 21 years | July 22, 1893 | July 21, 1893 | July 22, 1893 | Discrete | Recovered |
| 158 | L. L. ... | M. | 9 m'ths | " 24, " | " 21, " | " 24, " | Confluent | Died |
| 159 | J. M. H. | F. | 16 years | " 23 " | " 22, " | " 23, " | Discrete | Recovered |
| 160 | P. C. B. B. | M. | 3 " | " 26, " | " 26, " | " 26, " | Confluent | Died |
| 161 | E. B. ... | F. | 13 " | " 31, " | " 30 " | " 31, " | Discrete | Recovered |
| 162 | D. B. ... | M. | 6 " | " 31, " | " 30, " | " 31, " | " | " |
| 163 | R. H. ... | F. | 59 " | Aug. 2, " | " 29, " | Aug. 2, " | Hæmorrhagic | Died |
| 164 | S. H. ... | F. | 22 " | " 2, " | " 15, " | " 2, " | Discrete | Recovered |
| 165 | M. J. L. | F. | 13 " | " 3, " | Aug. 2, " | " 3, " | Hæmorrhagic | Died |
| 166 | H. M. ... | F. | 19 " | " 4, " | " 4, " | " 4, " | Discrete | Recovered |
| 167 | F. J. H. | M. | 22 years | " 5, " | " 5, " | " 5, " | " | " |
| 168 | J. L. ... | F. | 25 " | " 7, " | " 4, " | " 7, " | Confluent | " |
| 169 | A. L. ... | F. | 5 " | " 7, " | " 5, " | " 7, " | Discrete | " |
| 170 | J. K. ... | F. | 17½ " | " 10, " | " 8, " | " 10, " | " | " |
| 171 | E. P. ... | F. | 4¾ " | " 16, " | " 13, " | " 16, " | " | " |
| 172 | E. B. ... | F. | 35 " | " 17, " | " 15, " | Not removed | " | " |
| 173 | W. L. ... | F. | 28 " | Sept. 2, " | Sept. 1, " | Sept. 2, " | " | " |

EXPLANATION OF SYMBOLS:—F.=Foveated; Un-F.=Un-Foveated;

SMALL-POX, 1892 AND 1893.—*Continued.*

| Date of Discharge. | Days in Hospital. | VACCINATION. | | NO. OF OTHER INMATES OF HOUSES. | | | | | Particulars of the several cases, and probable sources of infection. |
|--------------------|-------------------|---------------|------------------------------------------|---------------------------------|----------|--------------|-----------------|-----------------|----------------------------------------------------------------------|
| | | Date. | Number and Character of Marks. | Males. | Females. | Vac-cinated. | Un-Vac-cinated. | Re-Vac-cinated. | |
| Aug. 12, 1893 | 22 | Childhood ... | 3 Un-F. over $\frac{1}{2}$ | 1 | 3 | 4 | ... | ... | Possibly from case 144. |
| July 29, " | 6 | Not vacc'd. | ..... | 2 | 3 | 3 | 2 | ... | Origin doubtful. |
| Aug. 12, " | 21 | Infancy ... | No marks visible | 1 | 4 | 5 | ... | 1 | From case 149. |
| " 3, " | 9 | Not vacc'd. | ..... | 3 | 3 | 6 | ... | ... | " 151. |
| " 15, " | 16 | Infancy ... | 2 Un-F. $\frac{1}{2}$... | 2 | 2 | 4 | ... | ... | " 151. |
| " 29, " | 30 | July 24, 1893 | 2 Un-F. $\frac{1}{2}$... | 2 | 2 | 4 | ... | ... | " 151. |
| " 6, " | 5 | Infancy ... | 3 Un-F. $\frac{1}{4}$... | ... | ... | ... | ... | ... | Caught from next case, 164. |
| " 7, " | 6 | " ... | 2 F. over $\frac{1}{2}$ | ... | ... | ... | ... | ... | Daughter of case 163 |
| " 6, " | 4 | Not vacc'd. | ..... | 2 | 2 | 4 | ... | 1 | Origin doubtful. |
| Sep. 2, " | 30 | Infancy ... | 2 F. $\frac{1}{2}$ | 1 | 2 | 3 | ... | ... | From case 157. |
| Aug. 26, " | 22 | " ... | 4 F. $\frac{1}{4}$ | 4 | 2 | 6 | ... | ... | Origin doubtful. |
| Sep. 9, " | 34 | " ... | 3 Un-F. $\frac{1}{4}$... | 2 | ... | 1 | 1 | ... | Mother of case 158. |
| " 16, " | 41 | Not vacc'd. | ..... | 2 | ... | 1 | 1 | ... | Daughter of case 168. |
| " 2, " | 24 | Infancy ... | 1 Un-F. $\frac{1}{4}$... | 5 | 4 | 9 | ... | ... | Possibly from fellow-worker a mill. |
| " 2, " | 18 | " ... | 2 Un-F. $\frac{1}{4}$... | 1 | 2 | 3 | ... | ... | Possibly from visit it at Oldham. |
| ..... | ... | " ... | 2 F. $\frac{1}{4}$ - $\frac{1}{2}$ | 3 | ... | 3 | ... | ... | " " place of business in Manchester. |
| " 13, " | 17 | " ... | 2 F. over $\frac{1}{2}$ | 3 | 2 | 4 | 1 | ... | From cases 168, 169. |

Fractions=Area in terms of superficial inch square.

TABLE I.

WEEKLY INCIDENCE OF SMALL-POX CASES.

| Week ending | No. of Cases reported. | Week ending | No. of Cases reported. |
|---------------------------|------------------------------|---------------------------|------------------------------|
| | | <i>Brought forward...</i> | 111 |
| September 24th, 1892 | 1 | April 29th, 1893 | 6 |
| December 24th | 2 | May 6th | 5 |
| „ 31st | 2 | „ 13th | 5 |
| January 14th, 1893 | 2 | „ 20th | 3 |
| „ 21st | 3 | „ 27th | 1 |
| „ 28th | 9 | June 3rd | 5 |
| February 4th | 8 | „ 17th | 3 |
| „ 11th | 9 | „ 24th | 2 |
| „ 18th | 10 | July 1st | 2 |
| „ 25th | 7 | „ 8th | 4 |
| March 4th | 5 | „ 15th | 2 |
| „ 11th | 7 | „ 22nd | 8 |
| „ 18th | 5 | „ 29th | 3 |
| „ 25th | 5 | August 5th | 6 |
| April 1st | 9 | „ 12th | 4 |
| „ 8th | 7 | „ 19th | 2 |
| „ 15th | 8 | „ 26th | 0 |
| „ 22nd | 12 | September 2nd | 1 |
| <i>Carried forward...</i> | 111 | Total Cases... | 173 |

To the foregoing detailed statement of cases, the following additional one may be made :—

Incidence of cases in respect of houses, &c.

1. There were—

| | |
|------------------------------------------------------------------|-----------|
| 99 houses in which only one case occurred, representing | 99 cases. |
| 21 houses in which two cases occurred, representing | 42 „ |
| 3 houses in which three cases occurred, representing | 9 „ |
| 2 houses in which four cases occurred, representing..... | 8 „ |

2. There was—

| | |
|--------------------------------------------------------------------|-----|
| 1 common lodging-house from which five cases were removed | 5 „ |
|--------------------------------------------------------------------|-----|

3. There were—

| | |
|------------------------------------------------------------|-----|
| 6 tramps removed from the Workhouse, representing..... | 6 „ |
| 2 tramps removed from Hope Infirmary, representing..... | 2 „ |

4. There was—

| | |
|-----------------------------------------------------------------------------------|-----|
| 1 tramp, who called on a medical man in the Regent Road District, representing | 1 „ |
|-----------------------------------------------------------------------------------|-----|

And—

| | |
|-------------------------------------------------------------------------------------|-----|
| 1 tramp, who called on a medical man in the Greengate District, representing ... | 1 „ |
|-------------------------------------------------------------------------------------|-----|

Total of cases... 173

Hence it is seen that there were a considerable number of associated cases. The total number of houses at which cases were notified was 126; the associated groups were 27 in number, and represented 64 cases. But the total incidence of the disease gave only a small proportion of cases per household. This shows that prompt isolation of cases, vaccination or re-vaccination of the other inmates of infected and neighbouring houses, and other precautions were generally successful in preventing the spread of the disease. In several notable households, however, the neglect of vaccination or re-vaccination was attended with strikingly different results. The quotation of the following selected cases will probably be sufficient to emphasise this point :—

1. Case No. 24 was an *un-vaccinated* man, aged 38 years. He was a labourer, and had been going about Manchester looking for work. About fourteen days before his case was notified as small-pox, he had obtained employment in the Pendleton district of Salford. When

Illustrations of the neglect of precaution particular household

Illustrations of
the neglect of
precautions in
particular
households.

the case was notified on January 31st, the three other inmates of the house, aged respectively 50, 19, and 17 years were urged to be re-vaccinated at once. Those aged 50 and 19 years were re-vaccinated, but the girl aged 17 years (case No. 41.) positively refused to be re-vaccinated, and on *February 14th*, she was notified as having the disease

2. Case No. 71 was a man of 30 years. who had only been vaccinated in infancy, and was notified on March 20th. The other inmates of the house were the man's wife, and two children aged 12 months and three years and five months respectively. Neither of these were vaccinated. The infant aged twelve months took the disease, and was notified on April 1st, (No. 84.) The other child was then vaccinated on April 1st, but too late to avoid the consequences of previous neglect, and had the small-pox rash out on April 5th, (No. 90.) The infant aged 12 months, which was un-vaccinated, had *confluent* small-pox and died; the other child, whose disease the vaccination, though performed late, possibly modified, had *discrete* small-pox and recovered.
3. Case No. 115 was that of a girl aged 20 years, notified on April 25th. The other inmates were urged to be re-vaccinated, and those that required it were so re-vaccinated, with the exception of a lad of 15 years who refused to submit to the operation. He sickened from the disease on May 6th, (No. 126.)
4. Case No. 157 was a man aged 21 years, and was notified on July 22nd. The other inmates were aged respectively 51, 43, 19, and 16 years. All refused to be re-vaccinated but one, namely, that aged 16 years. Of the remaining three inmates, the girl aged 19 years (No. 166) was reported as having the disease on August 4th.
5. Case No. 151 was a girl aged 8 years. Neither she nor three other children aged 6 years, 3 years, and nine months respectively had been vaccinated. Her father and mother, and elder brother and sister aged 17 and 13 years, had been vaccinated in infancy only. Case No. 151 was notified on July 17th, and was followed by case No. 160 on July 26th. The baby of nine months, and the boy of 6 years were vaccinated on July 24th, but no re-vaccination was submitted to. On the 30th of July, the girl of 13 years (Case No. 161), and the boy of 6 years (Case No. 162) had the rash out. The vaccination in the last case was simply performed too late to prevent an attack of the disease, although it appears to have modified the severity.

These object lessons on the neglect of vaccination and re-vaccination are sufficiently striking if only persons would pay attention to them ; but apparently it is only in times of panic that people will notice them.

I come now to speak of the influence which vagrancy has exercised on the origin, spread, and maintenance of the epidemic in the borough.

Small-pox and
Vagrants.

As has been already shown in the detailed table, the first case of the epidemic was a tramp from Warrington and Stalybridge. Then, infection was afterwards introduced into the borough by vagrants on seventeen different occasions. The vagrants in question were partly located, at their times of illness, in the workhouse premises or in common lodging-houses in the borough. Of the extent to which the infection of small-pox was possibly carried elsewhere by vagrants leaving the borough I am quite unable to speak : it is of course possible that such may have occurred, but I have had no intimation of suspicion of such from any quarter.

The following list shows the number of tramps, whence they came, and where they were at the time their illness was notified :—

| No. in De- tailed Table. | Date of Notifica- tion. | Locality at time of illness. | Whence tramped from. |
|-----------------------------------|-------------------------------|-------------------------------------------|----------------------------------------------|
| | 1892. | | |
| 1. | Sept. 18. | Common Lodging-house. | Stalybridge. |
| 2. | Dec. 22. | " " | Warrington. |
| | 1893. | | |
| 8. | Jan. 15. | " " | " " |
| 10. | " 20. | Tramp Ward, Work- house | "The Rest," C. L. H. in Manchester. |
| 11. | " 24. | Common Lodging-house. | Pately Wood. |
| 16. | " 27. | Tramp Ward, Work- house | Bolton. |
| 17. | " 27. | Tramp Ward, Work- house | Rochdale. |
| 20. | " 28. | Common Lodging-house. | St. Helens. |
| 54. | Feb. 26. | " " | Barrow, Bolton, Oldham, and Stockport. |
| 70. | Mar. 18. | Tramp Ward, Work- house | Bolton. |
| 79. | " 28. | Tramp Ward, Work- house | Manchester. |
| 80. | " 28. | Tramp Ward, Work- house | Dore and Chinley. |
| 89. | April 6. | A Medical Practitioner's Surgery | Oldham. |
| 94. | " 11. | A Medical Practitioner's Surgery | " |
| 129. | May 17. | Workhouse Infirmary (Hope) | Bolton. |
| 143. | June 28. | Workhouse Infirmary (Hope) | Oldham & Bolton |
| 145. | July 3. | Common Lodging-house. | Sheffield. |

Thus of the seventeen tramps, eight cases came from the tramp ward or Hope infirmary of the workhouse, seven occurred in common lodging-houses of the borough, and two were cases of tramps, who, feeling ill, called at medical practitioners' surgeries on their arrival in the borough.

It is not possible to say how much these tramps may have spread infection during the time they were in the borough, and before their removal to hospital; but there is some evidence of the absence of spread of the disease from them, both in the workhouse premises and in the several common lodging-houses referred to. In the first place, with the exception of the eight cases of tramps, no case of small pox occurred in either the workhouse or its infirmary at Hope. In the second, there were only two common lodging-houses from which tramps were removed, at which more than one case of small-pox occurred. I propose to refer to these at once.

1. Cases Nos. 8 and 20 occurred in the same common lodging-house, No. 9, Hankinson Street, Pendleton, but they were apparently unconnected with each other. No. 8 had been in the house eleven days before being removed to hospital: on his removal the whole house was thoroughly disinfected. No. 20 was the son of a travelling knife-grinder; but he had only been in the house *three* nights before his removal to hospital. No other case occurred in this house during the whole epidemic.
2. The first case that occurred at the common lodging-house, 1a, Park Place, Cross Lane, was No. 59, being the wife of the deputy-keeper of the house. The source of infection was very obscure, but as, every week, this house was much frequented by cattle-drovers attending the great Salford Cattle Market, the possible sources of infection were by no means small. This woman's case was notified on March 4th, 1893, on March 11th No. 66—her husband—was notified.

The house was on the removal of each case thoroughly disinfected.

Nineteen days after the second case, however, case No. 81 occurred, this being a cattle-drover from Chinley, the same district as cases Nos. 78 and 80 came from, and where small-pox was prevalent.

On July 4th, case No. 145 occurred, being, as already shown, a tramp from Sheffield, and a fresh case of importation of the disease.

Lastly, on July 21st, case No. 155 was notified, being that of a warehouseman out of employment, who had left this house for the workhouse, but who could not with certainty be connected with the immediately preceding case.

Small-pox and
Vagrants.

Thus, so far as the common lodging-houses and tramps were concerned, there was but little in their circumstances to which the spread of the disease in the borough could be attributed.

But, further, there were only two cases, Nos. 19 and 114 of small-pox in any of the other common lodging-houses in the borough, besides those already recorded at which vagrants were found to be ill of the disease, and these occurred in separate houses. In my last annual report for the year 1892, I showed on pages 61-62, that there were 45 common lodging-houses on the register at the end of the year. "These 45 houses contain 241 rooms, and provide accommodation for 1,369 persons," so that the absence of spread of the disease through them cannot but be regarded as highly satisfactory to the Health Department of the borough. The common lodging-houses are of course more especially exposed to invasion by infected persons than any other houses in the borough, and they were subjected, therefore, to daily inspections from and after the month of September, 1892. Every case of illness occurring in them since that time was enquired into lest some doubtful case of small-pox should escape attention, and it is extremely gratifying to be able to record the cordial co-operation of the lodging-house keepers, throughout the whole period of the epidemic, with the officers of the Health Department in their efforts to discover and prevent fresh outbreaks of the disease.

Action in respect
of the Common
Lodging-houses.

It so happened that there seemed to be some danger of an influx of tramps from infected districts of Manchester, and I at once addressed a letter on January 24th, 1893, to each of the keepers of common lodging-houses in this borough, as follows :—

"Sir,

"I have to call your particular attention to the great prevalence of small-pox in the neighbouring city of Manchester and other large towns of Lancashire, and to advise you, in your own interests, to make sure that those whom you admit into your lodging-house have been recently re-vaccinated. I shall be glad to know, as early as possible, of any case of suspicious illness occurring in your lodging-house during the prevalence of small-pox."

Action in respect
of the Common
Lodging-houses.

Most of the lodging-house keepers cordially fell in with my suggestions, and through their influence many re-vaccinations were performed, and some resolutely refused to admit unknown lodgers who declined to protect themselves against the infection of small-pox. On the whole, I cannot but believe that the common lodging-houses were rendered less of a menace to the public health than they might have been, and I heartily recognise the valuable assistance which was accorded by the whole body of the lodging-house keepers in the borough.

Analysis of the
Influence of Vae-
cination.

As I have already shown, there was a total of 173 cases of small-pox during the whole outbreak; there were a considerable number of associated cases in private dwellings due to neglect of vaccination precautions; there was only one case of association in a single common lodging-house; and that the spread of the disease in the borough was not due in any special degree to the action of vagrants. The disease was certainly introduced by a tramp but the social and commercial relations existing between Salford and its neighbour Manchester, where small-pox was very prevalent before it assumed epidemic proportions in Salford, much more largely contributed to the introduction of fresh doses of infection. It, therefore, now remains to consider how far the inhabitants of the borough were in a position to resist the special dangers to infection to which they were exposed. In this connection, as I have before indicated I am unable to estimate the approximate amount of protection which was sought during the epidemic by means of private vaccination or revaccination. The amount of protection sought at the hands of the public vaccinators was ridiculously small, but we can be sure of its having been effectually bestowed. We can also be sure that many practitioners in the borough performed the operation completely and well when applied to; but among the poorer classes the dislike to more than one insertion of vaccine lymph is so strong that we cannot be sure that a sufficiently large amount of protection was generally afforded among them.

The following tables have therefore been prepared to show (i.) the sex and age incidence of the disease during the epidemic in this borough, (ii.) the data as to the incidence of the disease on vaccinated, unvaccinated, or those in whom vaccination was doubtful, and (iii.) the data as to the incidence of the several types of the disease.

TABLE II.

SMALL POX.—AGE AND SEX INCIDENCE.

| Ages. | Males. | | | Females. | | | Both Sexes. | | | Total No. of Cases. |
|----------------------|------------|-------|--------------------------|------------|-------|--------------------------|-------------|-------|--------------------------|---------------------------|
| | Recovered. | Died. | Percentage Mortality. | Recovered. | Died. | Percentage Mortality. | Recovered. | Died. | Percentage Mortality. | |
| Under 1 Year | ... | 2 | 100.0 | ... | 1 | 100.0 | ... | 3 | 100.0 | 3 |
| 1 to 5 Years | 5 | 4 | 44.4 | 7 | ... | ... | 12 | 4 | 25.0 | 16 |
| 5 to 10 Years | 3 | ... | ... | 5 | ... | ... | 8 | ... | ... | 8 |
| 10 to 15 Years | 6 | ... | ... | 5 | 1 | 16.7 | 11 | 1 | 8.3 | 12 |
| 15 to 20 Years | 11 | ... | ... | 9 | 1 | 10.0 | 20 | 1 | 4.8 | 21 |
| 20 to 30 Years | 31 | 3 | 8.8 | 10 | 1 | 5.0 | 50 | 4 | 7.4 | 54 |
| 30 to 40 Years | 25 | 4 | 13.8 | 11 | 1 | 8.3 | 36 | 5 | 12.2 | 41 |
| 40 to 50 Years | 6 | 1 | 14.3 | 2 | ... | ... | 8 | 1 | 11.1 | 9 |
| 50 to 60 Years | 5 | 2 | 28.6 | ... | 1 | 100.0 | 5 | 3 | 37.5 | 8 |
| Over 60 Years | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 |
| Total | 93 | 16 | 14.7 | 58 | 6 | 9.4 | 151 | 22 | 12.7 | 173 |

TABLE III.

SMALL POX.—VACCINATION DATA.

| Ages. | Vaccinated | | | Unvaccinated. | | | Vaccination Doubtful. | | | Total. | Total Percentage Mortality. |
|----------------------|------------|-------|-----------------------|---------------|-------|-----------------------|-----------------------|-------|-----------------------|--------|-----------------------------|
| | Recovered. | Died. | Percentage Mortality. | Recovered. | Died. | Percentage Mortality. | Recovered. | Died. | Percentage Mortality. | | |
| Under 1 Year | ... | ... | ... | ... | 3 | 100.0 | ... | ... | ... | 3 | 100.0 |
| 1 to 5 Years | 3 | ... | ... | 9 | 4 | 30.8 | ... | ... | ... | 16 | 25.0 |
| 5 to 10 Years | 4 | ... | ... | 4 | ... | ... | ... | ... | ... | 8 | ... |
| 10 to 15 Years | 7 | ... | ... | 3 | 1 | 25.0 | 1 | ... | ... | 12 | 8.3 |
| 15 to 20 Years | 17 | ... | ... | 2 | 1 | 33.3 | 1 | ... | ... | 21 | 4.8 |
| 20 to 30 Years | 46 | 2 | 4.2 | 3 | 2 | 40.0 | 1 | ... | ... | 54 | 7.4 |
| 30 to 40 Years | 33 | 4 | 10.8 | 1 | 1 | 50.0 | 2 | ... | ... | 41 | 12.2 |
| 40 to 50 Years | 7 | 1 | 12.5 | 1 | ... | ... | ... | ... | ... | 9 | 11.1 |
| 50 to 60 Years | 5 | 2 | 28.6 | ... | ... | ... | ... | 1 | 100.0 | 8 | 37.5 |
| Over 60 Years | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Total | 123 | 9 | 6.8 | 23 | 12 | 34.3 | 5 | 1 | 16.7 | 173 | 12.7 |

TABLE IV.

TYPE OF SMALL POX.—VACCINATION DATA.

| Ages. | Vaccinated. | | Unvaccinated | | Vaccination Doubtful, | | Total. |
|----------------------|-------------------------------------------|-----------------------|-------------------------------------------|-----------------------|-------------------------------------------|-----------------------|--------|
| | Hæmorrhagic, Semi-Confluent or Confluent. | Discrete or Modified. | Hæmorrhagic, Semi-Confluent or Confluent. | Discrete or Modified. | Hæmorrhagic, Semi-Confluent or Confluent. | Discrete or Modified. | |
| Under 1 Year | ... | .. | 3 | ... | ... | ... | 3 |
| 1 to 5 Years | ... | 3 | 10 | 3 | ... | ... | 16 |
| 5 to 10 Years | 1 | 4 | 3 | 1 | ... | ... | 8 |
| 10 to 15 Years | 2 | 5 | 4 | ... | 1 | ... | 12 |
| 15 to 20 Years | 5 | 12 | 2 | 1 | ... | 1 | 21 |
| 20 to 30 Years | 14 | 34 | 5 | ... | 1 | ... | 54 |
| 30 to 40 Years | 20 | 17 | 2 | .. | 1 | 1 | 41 |
| 40 to 50 Years | 5 | 3 | 1 | ... | ... | ... | 9 |
| 50 to 60 Years | 5 | 2 | ... | ... | 1 | ... | 8 |
| Over 60 Years | ... | 1 | ... | ... | ... | ... | 1 |
| Total | 52 | 80 | 30 | 5 | 4 | 2 | 173 |

These tables are most instructive. We learn from--

Table II.

- (i.) That there were more males affected than females, the proportion being 109 to 64;
- (ii.) That there was a higher percentage mortality among the males than the females; and
- (iii.) That the greatest incidence of the disease was, in both sexes between the 15th and 40th years of life, when, as I have already pointed out, the protection given by vaccination in the earliest years of life had become less durable and ought to have been repeated.

From Table III.

- (i.) That there were 132 vaccinated, as against 35 unvaccinated persons, who suffered from small-pox, and six persons in whom vaccination was doubtful;
- (ii.) That the percentage mortality among the vaccinated was 6.8, as against 34.3 among the unvaccinated, and 16.7 among those in whom vaccination was doubtful;
- (iii.) That, among the vaccinated, under 20 years of age, none died, and that the mortality among them increased with their age above 20 years;
- (iv.) That, among the unvaccinated, all under one year of age died, and that above that age there were very high mortalities.

And from Table IV.

- (i.) That, among the vaccinated, there were less than 40 per cent. of severe cases;
- (ii.) That, among the unvaccinated, there were six times as many severe cases as mild ones, and
- (iii.) That, among those in whom vaccination was doubtful, there were twice as many severe cases as mild ones.

This analysis of Tables II., III., and IV. is put into very simple language; but it appears to me to be not the less instructive for that reason.

It is further to be specially noted, in this connection, that there was no single case of a person, being re-vaccinated in time, taking the disease. This seems to me to be a conclusive fact in favour of revaccination.

It would indeed be easy to adduce many examples of the influence of vaccination in mitigation of the disease of small-pox and in prevention of mortality; it would be easy also to give examples of outbreaks in which the unvaccinated suffered terribly; but a lesson learnt in the midst of a community generally has a more telling effect than a mere recital of experiences elsewhere. It is, therefore, very much to be hoped that the lessons herein taught by the Salford small-pox epidemic will become widely known throughout the borough, will be taken to heart in real earnestness, and will be productive of a better amount of vaccinal protection than appears to have been the case in 1892-3.

Analysis of the
Influence of Vac-
cination.

III.

The Hospital Question.

Primary arrangements for the isolation of cases of Small-pox occurring in Salford.

Monsall Hospital.

Secondary arrangements for the isolation of cases of Small-pox occurring in Salford.

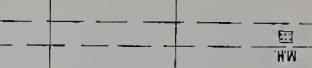
Wilton Hospital

Mode Wheel Hospital.

It will be remembered that, when the Ladywell Sanatorium was built, an undertaking was given by the Corporation that cases of small-pox should not be treated there. It was intended that the former arrangements with the Manchester Royal Infirmary Board should be continued, whereby the Corporation of Salford contributed £100 a year towards the Establishment Fund of the Monsall Hospital, and so had the power of sending cases at a charge of 25s. per week to that hospital, so long as the Monsall authorities had accommodation at liberty. In accordance with this arrangement the early small-pox cases occurring in Salford were sent to Monsall Hospital, and the last case so sent was case No. 10 on January 20th, 1893. The outbreak of small-pox had by that time proved so extensive in Manchester that the Monsall authorities were unable to afford accommodation for cases of the disease from Salford after that date. It will thus be seen that the reliance of Salford on Monsall Hospital in the case of an epidemic was entirely misplaced, and the Corporation were forced into providing independent accommodation. Foreseeing the possibility that this situation would arise, the Health Committee had begun to look about for a site for a temporary small-pox hospital. In the meantime, in December 1892, the old dismantled Wilton Hospital was temporarily refitted to provide immediate accommodation on the failure of Monsall, and during the time that a temporary small-pox hospital was being established. The first case, therefore, sent to Wilton Hospital was No. 11 on January 24th. The situation of the Wilton Hospital was obviously unsuitable for a large aggregation of acute small-pox cases, and on February 1st a temporary iron hospital for 48 beds was ordered from Messrs. Humphreys, Limited, of London, to be erected on a site adjoining Mode Wheel Road. It will be seen from the accompanying plan that the hospital formed a very complete unit in itself, comprised of two pavilions of 24 beds each, and separate pavilions for nurses, servants, kitchens, medical officer, discharging room, &c.

This establishment, called the Mode Wheel Hospital, is coloured red on the maps contained in this report, and was

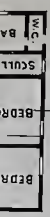
Room 7 West
Hospital
This establishment called the Middle West Hospital is
covered red on the maps contained in this report and was
often used as a parking lot for trucks serving the medical
department.

[illegible]

SMALL-POX HOSI

SCALE (in feet)

0 5 10 20 30



first occupied on March 9th, case 64 being admitted on that day, and the cases at that date in the Wilton Hospital being safely and satisfactorily transferred to Mode Wheel ^{Mode Wheel Hospital.}

The Mode Wheel Hospital continued to be occupied until September 23rd. Dr. Perry, from one of the Dublin Hospitals, was engaged as resident medical officer for the small-pox establishment at Wilton Hospital, and subsequently at Mode Wheel, under the direct instructions of Dr. Mullen, the Medical Superintendent of the Ladywell Sanatorium.

These establishments were put into telephonic communication, not only with the Health Department of the Salford Town Hall, but also with each other, so that the utmost despatch in any matter and at any moment might be observed.

The land at Mode Wheel on which the hospital was erected could only be rented for an outside period of two years. It is plainly necessary that the temporary small-pox hospital shall be converted into a permanent establishment. It so happens that Mode Wheel House, standing in about an acre of ground on the opposite side of the road to the temporary hospital, belongs to the Corporation, and is in my opinion a useful site for this purpose. The house itself can be made admirably suitable for the requirements of an administrative building, and at least one pavilion for 24 beds could be erected in the grounds. If an additional acre of land adjoining could be purchased another similar pavilion could be erected, but should it not be possible to purchase additional land, a smaller pavilion for six beds could be erected, I believe, in the present grounds, making a total establishment of 30 beds.

I would urge that this question be immediately dealt with by the Health Committee.

With respect to the administration of the small-pox ^{Administration.} hospitals during the epidemic, it is immensely pleasing to have to record that through the revaccination of the whole hospital staff not one single case of small-pox occurred among it.

The Lady Superintendent of the Ladywell Sanatorium herself instituted the nursing staff at Mode Wheel, and took up her residence there temporarily at the commencement of occupation. To her energy and influence the entire success of the nursing arrangements at Mode Wheel must unquestionably be ascribed.

The discharging rooms at Mode Wheel proved effective in their working, and it can be positively stated that no secondary case occurred in any house after the return of a patient to it.

I now come to consider the possible influence of the Wilton Hospital in the dissemination of the disease in the crowded districts surrounding it, objections having been freely made at the time to its occupation.

Map No. 2 has been prepared to show the number of small-pox cases occurring in the borough between January 24th and March 9th, 1893. The ordinary period of incubation of the disease being about 14 days, it is only fair to eliminate all cases in which the rash did not appear before the 7th February. Nevertheless, I think it only wise to inquire into all cases occurring in the period named. Three circles, each representing a radius of a quarter of a mile, have been drawn round the Wilton Hospital. In the first circle, *i.e.*, the one nearest the hospital, the following cases occurred, namely, 26, 30, 37, 46, 50, 55, 59, and 60.

Of these, case 26 had undoubtedly been in contact with a case in Manchester. Case 30 belongs to a group in the second circle. Case 46 had been in known contact with a case in Stockport Road, Manchester. Case 55 belonged to the same group as case 30; and case 60 was probably contracted from case 46 just mentioned.

In the second circle, *i.e.*, within a half mile radius of the hospital, the following cases occurred, *viz.*, 13, (16 and 17) (23, 34, 35, 36, 38, and 39) (47 and 61) 56, 57, 58.

Of these cases, 13, 16, and 17 had undoubtedly sickened before Wilton Hospital was occupied; 30, 34, 35, 36, 38, 39, and 55, derived their infection, directly or indirectly, from case 23, on whom there was actually a rash on the day following the occupation of Wilton, and cases 47 and 61 derive their infection from a case in the third circle.

In the third circle, *i.e.*, within three quarters of a mile radius of the Wilton Hospital, the following cases occurred, *viz.*, 15, 20, 22, (24, 41, and 42), (44, 45, and 52), 54.

In case 15 the rash was actually out before Wilton Hospital was occupied. Case 20 was a tramp. In case 22 the rash was out within four days of the Wilton being occupied. Case 24 probably contracted the disease in Manchester, and gave it to cases 41 and 42. Cases 47 and 61 of the second circle, together with 52 and 44, and 45 of the third, belong to one group, the infection of which is strongly suspected to have arisen from an unrecognised case in the home of cases 44 and 45. Case No. 54 was a tramp.

I have thus eliminated from the first circle all cases except 37, 50, and 59, the origin of which is quite uncertain—the dates on which the rash appeared ranging from February

Small-Pox Cases, January 24th to March 9th, 1893.

MAP. No.

[illegible]

12th to March 4th. In the second circle all have been accounted for, except cases 56, 57, and 58, in which the rash appeared on March 4th and 5th, and the origin of which was obscure. Thus, out of a total of 25 houses there were only six the origin of cases in which could not be accounted for. There is certainly, in view of these facts, no sufficient evidence to indicate that the Wilton Hospital had had a malignant influence on the districts surrounding it, although, cases 56, 57, and 58 are just sufficient to excite the suspicion that the continuance of the hospital after March 9th might have had some influence in the dissemination of the disease. Nevertheless, within fourteen days after the discontinuance of the Wilton Hospital only four cases occurred within the half mile radius of that place. Of these cases No. 66 was the keeper of the lodging-house at 1a, Park Place, who had contracted the disease from his wife. No. 70 was a tramp from the tramp ward of the workhouse. No. 73 might easily have contracted the disease in Manchester whilst seeking for employment; and No. 74 is the only case the source of whose infection was really obscure.

Enquiry concerning Wilton Hospital.

Under all these circumstances I think it is certain that the Wilton Hospital may be considered as having had, at most, no decided share in the propagation of the disease within the borough, and it undoubtedly served a useful temporary purpose in the early and effectual isolation, either wholly or in part, of not less than 53 cases of small-pox during a period of six weeks.

With respect to the possible influence of the Mode Wheel Hospital in a similar direction, I find that there were eight cases within a half mile radius of it after March 9th, but that none of them can be attributed to the aggregation of cases within it, independently of other and more probable sources of infection.

Mode Wheel Hospital.

In further reference to the Mode Wheel Hospital, it is exceedingly gratifying to be able to report that the estimate of 48 beds proved sufficient for the borough to meet the needs of isolation during the epidemic. The total number of Salford cases isolated at any one time never exceeded 32, and, with the addition of cases isolated from adjoining districts, the total number at any one time did not exceed 35.



